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General Education Working Group Report Recommendations

Portland State University. General Education Working Group

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INTRODUCTION

During this past summer the members of the General Education Working Group have been working to revise the recommendations we presented to faculty this past May and to respond to comments expressed by faculty who attended the open meetings and to several written responses. That most of these responses supported the directions recommended in our previous report was especially encouraging to the Working Group. In this report we seek to address several of the questions and concerns raised and to more completely set forth the rationale for the goals and general education program we recommend. Our work was significantly aided by contributions of representatives from the Office of Student Affairs, Portland Community College, Clackamas Community College, Mt. Hood Community College, and the Office of Academic Affairs.

It is our intent that this report will serve as the basis for thoughtful and careful review of our recommendations at the All Campus Symposium on Curricular Reform scheduled for September 17th. Following the Symposium we will review the responses to this draft of the recommendations and work toward preparing a proposal which will then be submitted to the appropriate organs of faculty governance.

The General Education Working Group was formed in the late Fall of 1992 and was charged by the Provost with developing two sets of recommendations. The first was to set forth the goals for general education at Portland State University. The second task was to develop a curricular model which would achieve those goals. The work of the committee proceeded in that order. That is, our efforts were first concentrated upon defining the purpose of a program of general education at our University. Then we turned to evaluating whether the current distribution requirements or some other model would be best suited to accomplish those ends.

We discovered that the current distribution requirements are not based on any discernible underlying purpose or articulated goals. We could not find any clear response to the question of what are the expected benefits for students or anticipated learning outcomes. *We finally concluded that we could not state with conviction that the current distribution requirements are meaningful.*

We found that, in general, our current approach to the first year of general education does little to actively engage students in their educations. Often, the first courses our freshmen encounter are large introductory courses designed to introduce students to a discipline. Classes which encourage student-student interaction and/or student-faculty interaction are the exception. Rather, lectures are given, notes taken, exams (often multiple choice) are administered, and then students proceed to their next large introductory class. The location and utility of the library are often unnecessary

pieces of information for our students until they reach upper division class standing. Science is in large part feared and avoided as are courses with substantial writing assignments.

When our students reach the upper division level we expect them to have been prepared through their lower division work to be able to frame questions, identify and examine relevant original source materials, and produce a paper, project, or experiment which demonstrates advanced academic ability. Yet, our upper division courses are filled with non-majors seeking to fulfill the distribution requirements but often without sufficient background to grasp the material and meet the performance standards expected. While many of our students do remarkably well, we faculty often express dissatisfaction with the performance of our students. Students, on the other hand, express dissatisfaction, frustration, fear, and occasional anger that they seem to have missed something important along the way and are not always able to meet the expectations placed upon them.

The general education program we recommend was carefully and consciously designed to address these and other problems. As we explored these issues members of the Working Group became aware of and conversant with trends drawn from the experiences of other universities and colleges, research on student aspirations, on factors affecting learning outcomes, on the effects of different general education approaches, and on the characteristics of PSU students. Our recommendations are not, therefore, the product of an iconoclastic group discussing curriculum in a vacuum. We did not draw goals and curricular approaches out of the air. Our recommendations represent our conclusions as how to best adapt successful and positive curricular innovations to the specific context of Portland State University and its students. The Working Group firmly believes that the goals and the program we recommend point us in a direction that is right for our students, right for the faculty, and right for the advancement of our University.

TRENDS IN GENERAL EDUCATION

During the late 1970's and throughout the 1980's American higher education found itself under assault from a number of sources. These attacks included the assertions that "too many students failed to develop the marks of generally educated people—a broad span of knowledge; skills to communicate clearly, to think logically and critically, and to get along with different kinds of people; the capacity to work independently and as a part of a team to solve problems" (Gaff, 1989: 11). In response to demands for greater accountability and attention to undergraduate education some 90 per cent of American colleges and universities considered some degree of curricular reform.

Most (including PSU) adopted some change though these ranged from relatively minor tightening of some distribution requirements or adding a writing course to full, comprehensive reform touching most aspects of the institution.

The ferment over general education has not abated and consensus about what all students should learn during their higher education experience was not achieved during the past decade. Rather, the debate has broadened with the discussion increasingly grounded in a growing body of research about general education programs and their relationships to student learning.

The "problem" of general education was hardly a new issue which suddenly arose in the 1980's. Rather, it appears in the late 19th century accompanying the rise of specialized fields of knowledge organized as disciplines and administered by departments coupled with the emergence of the research university.

In earlier, more "idyllic" times, the curriculum was largely prescribed for all students with college officials deciding what was essential for an educated person to know. Greek, Latin, philosophy, some doses of history, botany, and geography along with instruction in religion were deemed to be the components of a "higher" education. Few, if any, options were available for the almost exclusively upper class, male student body. Faculty had scant freedom to develop courses deviating from the prescribed ingredients defining the knowledge expected of "educated persons."

In the latter part of the 19th century several forces worked to irrevocably alter this happy consensus on what an educated person should know. The press toward an education linked to increasingly differentiated and specialized professions was accompanied by the growth of differentiated fields of specialized knowledge with faculty and students desirous of pursuing expertise in those areas. There was also a rise in academic freedom permitting faculty to develop courses reflecting their specific areas of intellectual inquiry. Homogeneity and consensus as to what students should learn in institutions of higher education was replaced by the heterogeneity of the modern university and an increasingly broad array of fields becoming organized as disciplines administered by departments—all of which claimed to be important to a complete education.

Harvard was among the first to break with the traditional curriculum by introducing electives, thus freeing faculty to offer courses formulated in accordance with their own scholarly pursuits. This change confronted students with a variety of courses covering different subject matters but largely without curricular coherence. In response to the problems created by the rise of electives, universities began to structure courses

into the major and require students to choose and specialize in one field (Rudolph, 1977; Weingartner, 1992).

The issue of general education or what should all students learn irrespective of their areas of concentration was introduced as a problem concurrent with these developments. Consensus gave way to conflict and deciding what was the appropriate curriculum to assist students to become educated persons became an often contentious issue.

During the 20th Century the trend toward differentiation of knowledge into specialized scholarly arenas and their linkage to professions has only accelerated. Gerald Graff (1992:135-141) summarizes the consequent structural and curricular changes with the term "coverage." Debates over what fields should be included or excluded were and continue to be dealt with by adding new areas of inquiry into the organizational fabric of the university. New departments and programs are created and within departments faculty seek to have the several sub field of the discipline "covered" by adding persons who have the requisite expertise. Typically it is left to the students to divine the interconnections and the bases of conflict and commonalty among the separate fields and subfields within and among departments.

Clearly, there are significant advantages to faculty and students alike in having available this wide array of differentiated areas of inquiry to study and research. However, the issues of what should be required of all students and whether those requirements are meaningful in relation to some purpose or set of goals are often ignored. Worse, we may proceed from the unstated premise that a university education means acquiring that level of expertise deemed appropriate by the major plus some more or less structured set of electives which collectively define "general education."

The Experience of the 1980's

That nearly all two and four year colleges and universities engaged in serious evaluation of their general education programs during the 1980's indicates that the "problem" of general education continues. Jerry Gaff identifies the impetus for the re-emergence of concern with general education as follows:

> The current revival of general education started in 1977 with the confluence of three widely publicized events. The Carnegie Foundation for the Advancement of Teaching declared "general education is a disaster area," and that message was trumpeted across the country. The U.S. Commissioner of Education and his assistants, Ernest Boyer and Martin Kaplan, called for a core curriculum in which students would study issues common to all members of society; their book carried the ominous title, *Educating for Survival.* And the Task Force on the Core Curriculum

> presented the Harvard College faculty with a proposal to overhaul the general education program. Each of these events highlighted the need for general education to be more than the loose distribution requirements that it had become at most colleges and universities (Gaff, 1992: 47).

At many universities and colleges the challenges posed by the mounting criticisms of undergraduate education led to serious consideration of major changes in existing general education requirements. However, because the issue was typically posed in terms of the bodies of knowledge and/or courses all students should be required to take, the result was change based upon alterations in existing distribution requirements. Given institutional structures, resource allocation models, and faculty reward systems it proved extraordinarily difficult for faculties to achieve even minimal consensus on what ought to be the content of general education. The struggle over what should constitute that part of a university education common to all students inevitably touches the interests and values of all faculty and all departments and programs. Because of the context of existing institutional structures and the resulting concern over "turf," and because the issue was often framed in terms of what fields should be included, altering but not abandoning existing distribution models of general education was often the only feasible outcome. In a report summarizing their review of reforms in the 1980's a group of former university and college presidents and chancellors, the Irvine Group, stated:

> Over the past decade, undergraduate renewal has relied on curricular patterns that have not worked well. Outmoded distribution requirements, for example, where students select courses from broad academic fields have failed to accomplish what is intended. These courses amount to electives, not general education. For too many undergraduates, their educations do not fit into a coherent whole, and the distribution of courses is more frequently the result of campus political considerations than of educational ones (The Irvine Group, 1990: 2).

This does not mean that the landscape of American higher education was littered with the refuse of promising ideas about general education which failed to be realized. Several institutions adopted comprehensive reforms which included significant departures from previous requirements. In his review of the reform movement Gaff (1989: 15) identifies the following thirteen elements which were established as curricular reform trends in the 1980's:

> 1. HIGHER STANDARDS, MORE REQUIREMENTS. Higher admissions requirements, mandates that students pass an exam to be eligible for upper-division study, and more stringent graduation requirements are variations on the theme.

2. TIGHTER CURRICULUM STRUCTURE. The trend is away from loose distribution requirements that students may satisfy with any of a large number of courses, and toward curricula consisting of a limited set of courses that meet specific purposes, a common core of the same courses for all students, or some combination of the two.

3. FUNDAMENTAL SKILLS. Skills such as writing, speaking, logical or critical thinking, foreign language, mathematics, and academic computing are increasingly emphasized in curricula today.

4. LIBERAL ARTS SUBJECT MATTER. The liberal arts...are taking a more prominent place in the curriculum, even in professional and pre-professional programs.

5. THE FRESHMAN YEAR. Freshman topical seminars, stronger advising, and greater attention to the intellectual and personal development of students are themes common to new freshman-year programs.

6. GLOBAL STUDIES. Given the growing interdependence of economic systems, environmental problems, and security needs, colleges are emphasizing the study of other peoples.

7. GENDER AND ETHNIC STUDIES. Another trend is heightened attention to cultural pluralism in America and the West and the incorporation of new scholarship on these topics into the core curriculum.

8. INTEGRATION OF KNOWLEDGE. Integration is what is "higher" about higher education,..., thematic, interdisciplinary, and capstone courses are found in many of the new curricula.

9. MORAL REFLECTION. More than technical expertise is expected of an educated person, colleges are re-emphasizing values through the study of different cultures, controversial issues and the implications of science and technology.

10. EXTENSION THROUGH ALL FOUR YEARS. Rather than being concentrated in the first two years, general education now extends throughout the entire span of college as a context for specialization.

11. FACULTY DEVELOPMENT. Faculty are the key to implementing any change in curriculum; colleges serious about reform provide seminars, retreats, workshops, travel and other assistance to help faculty acquire new knowledge and pedagogical tools.

12. ADMINISTRATION. Several colleges have established greater central authority over the core of the curriculum by creating an administrative position (such as a dean or director of general education) and a college-wide faculty committee to provide oversight.

13. ASSESSMENT. Assessing student learning is increasingly common, to determine the extent to which a new curriculum is effective and identify problems that call for change.

In addition to these, the Working Group found five additional trends which have characterized some of the reforms:

1. NEW COURSES. Some colleges and universities are basing all or some part of their general education programs on new courses developed specifically for general education rather than relying solely on restructuring existing courses which were developed primarily to serve disciplinary majors (e.g., Trenton State College, SUNY-Buffalo).

2. LINKAGE TO STATED GOALS. Increasingly there is a conscious effort to develop clear goals for general education which can be communicated to faculty and students alike and to clearly link the general education program to those goals (e.g., SUNY-Stony Brook, SUNY-Buffalo).

3. LEARNING COMMUNITIES. This trend is to structure and emphasize learning communities wherein groups of students progress together through at least some component(s) of their university education (e.g., University of Oregon, SUNY-Stony Brook).

4. COMMUNITY SERVICE. This component is most often found in the programs of private institutions but is an increasing trend at larger institutions. Students are afforded the opportunity and in several instances are required to spend some part of their tenure at the university or college applying their expertise to an experience which involves them in the community (e.g. Wayne State University, Stanford, Vanderbilt).

5. GENERAL EDUCATION IS THE RESPONSIBILITY OF ALL FACULTY. Some universities have begun to consider the general education component of a student's higher education to be the responsibility of all faculty, not just those whose expertise places them in the sciences, humanities, or social sciences (e.g., Syracuse University).

Consequences of General Education Reforms

In what we believe to be the most comprehensive study of the consequences of the reforms adopted in the 1980's, Gaff (1991) concludes that effects of adopting new general education curricula have been largely positive and further that the more comprehensive are the changes, the greater are the positive effects for the institution, faculty, departments, and students. Gaff's research is based on a nation-wide survey of returned surveys from a sample of 226 two and four year colleges and universities selected to be representative of institutions in each of the Carnegie categories. The surveys were completed by selected persons responsible in some degree for curriculum at each of these institutions. Fifteen percent of these indicated that they had made a small change, 42 per cent a moderate change, and 42 per cent stated that they had made large changes in their general education programs (Gaff, 1991: 76).

His findings (Gaff, 1991: 77) regarding overall effects of general education reform on responding institutions are:

Impact of General Education Reform on the Institution

	Negative Impact	No Impact	Positive Impact
Institutional identity	2%	26%	72%
Faculty renewal	2	27	71
Sense of community	2	33	65
Public elations, visibility	1	38	61
Efficient utilization of faculty	13	37	48
Student retention	6	47	47
General e ucation budget	11	42	46
Student admissions	2	59	40
Institutional fund raising	1	62	36
Faculty reward structure	4	72	24

An additional outcome of general education reform on institutions concerns the consequences of these changes for the majors. When asked to judge the relation between general education and the majors only 3 per cent of the responding institutions indicated that they thought that general education reforms negatively affected majors. Thus, for most of these institutions steps taken to reform and strengthen general education are not perceived to have eroded or weakened the majors (Gaff, 1991: 85).

As was noted above, not all the institutions in Gaff's survey engaged in comprehensive or even major change in general education requirements. This raises the question of what types of changes were found among institutions making small adjustments (e.g., adding a writing course, some tightening of requirements) as compared to those found in institutions which enacted large-scale, comprehensive changes. The next table (Gaff, 1991: 91) shows the types of changes associated with small or large-scale reform.

Nearly all of these elements are included in our recommended program or are discussed as part of our recommendations regarding implementation. Of particular interest are the findings with respect to across-the-curriculum themes. The indication is that change "across-the-curriculum" is being developed to include topics in addition to writing. Gender issues, cultural pluralism, ethics, global studies, and computer literacy are approached in a thematic, across-the-curriculum approach at many of the institutions which have adopted comprehensive reform of their general education programs. This approach is integral to our recommended program of study.

Curriculum Components and Supports Associated with Size of Change in General Education

	Small Change	Large Change
Curriculum components offered		
Interdisciplinary core courses	47%	72%
Courses using original sources	31	58
Freshman seminar	38	48
Senior seminar, project	28	38
Across-the-curriculum themes offered		
Writing	62	91
Gender issues	25	61
Cultural pluralism	28	61
Ethics or values	28	61
Global studies	34	60
Computer literacy	34	49
Curriculum supports provided		
Faculty committee for general education	25	74
Administrator responsible for general education	12	55
Major systematic faculty development program	9	50
Policy of active learning in courses	25	50
Student services furthering purposes of general education "quite a lot" or "very much"		
Academic advising	48	87
Orientations	19	63
Admissions	16	35

Institutions adopting large-scale, comprehensive changes were more often characterized by a range of departures from the distribution model. The question remains whether the institutional outcomes of those reforms differed from universities making only small changes in their general education programs. The next set of data (Gaff, 1991: 95) show rather convincingly that "Large change" institutions were much more likely to report positive outcomes from general education reform.

Because of their importance and because our recommended general education program touches upon them, the Working Group would like to expand on two of the positive outcomes of large scale change illustrated in these data: student retention and faculty renewal. According to the PSU Office of Institutional Research only 23 per cent

of 1986 entering full-time freshmen are "retained," that is, they continued to enroll through

Outcomes Associated with Small and Large Changes in General Education

	Small Change	Large Change
Attitudes toward general education more favorable		
Administration	42%	89%
Faculty	29	85
Students	26	49
"Quite a lot" or "very much" change in		
Higher-quality education	19	82
Greater curricular coherence	22	80
Faculty renewal	19	72
Greater appreciation for diversity	19	63
More active learning	16	61
Revitalized institution	9	64
Positive impacts on		
Faculty renewal	44	85
Institutional identity	41	85
Public relations, visibility	19	82
Sense of community	36	74
General education budget	23	64
Retention of students	16	58
Admissions	16	47
Fund raising	25	45
Faculty reward structure	3	36

completion of their degree at Portland State. This is an exceedingly low rate. *An even more distressing statistic is that between 1986 and 1991 as many as 32 to 45 per cent of entering, full time freshmen did not return for their sophomore year* (OIR, 1993b). Changes in curriculum and requirements cannot in and of themselves completely reverse this reality. But the evidence suggests that at many institutions careful attention to general education has had a positive effect on student retention. Later in the report we show that the recommended general education program was developed with specific attention to the characteristics of Portland State students and improved retention will be among the expected outcomes.

Impetus and support for curricular reform are often based in faculty discontent about current requirements and student performance. To again quote Gaff:

> Faculty dissatisfaction with low standards, frustration with students' skills, and inability to assume a certain level of what Hirsch calls "cultural literacy" helped to fuel many of the changes. Most faculty suffer their frustrations in isolation, grumble to their colleagues, or struggle with their

> individual efforts, resulting in an inevitable alienation, often unspoken, from their colleagues and institution, who are not seen as supportive. A curriculum reform process often validates the educational concerns of faculty and supports their impulse toward high-quality education. If the reform is successful, faculty morale increases (Gaff, 1991: 79).

This aptly summarizes views expressed by members of the Working Group and, from anecdotal reports, those of many of our colleagues.

Consideration of reforms in general education brings together faculty from a number of departments and schools and asks them to talk across disciplines, to carefully consider differing knowledge systems, and to craft a program with goals and requirements which will be applicable to all students. That very process contributes to faculty renewal. The intellectual challenges, excitement in discovering new perspectives, and resultant faculty growth are nowhere as well expressed as in the remarkable collection of essays reflecting on the experiences of a group of faculty at Syracuse University (Marsh, 1988). Peter Marsh and his colleagues describe the first tentative discussions among colleagues who did not know each other and who held some degree of antagonism toward each other's disciplines. They slowly moved to the mutual discovery that each other's substantive fields and ways of knowing could contribute to one's own knowledge. They describe the excitement of collectively working through different understandings of concepts and theories on the way to the formulation of courses and syllabi. This has been the experience of the General Education Working Group. For us, renewal has come to mean finding that one's concerns about the education of students are shared by others, that we have a great deal to learn from each other, and that the challenge of developing educational experiences for our students contributes greatly to our own intellectual growth. Our recommended program of study includes major components which will ask faculty from a range of disciplines to develop and deliver courses collectively. We fully expect that among the outcomes will be an expansion of the experience of renewal coupled with an increased sense of community among PSU faculty.

The results of Gaff's research are strikingly unambiguous. Institutions which have engaged in comprehensive change in their general education programs are significantly more likely to report a range of positive outcomes. Simply adding a course or a requirement without considering the total set of requirements is far less likely to impact the institution. The program we are recommending would fall into Gaff's definition of "large change." Based on these findings, the Working Group expects that this program will facilitate a range of positive outcomes for Portland State University, its students, and its faculty.

REFORM AT PORTLAND STATE UNIVERSITY

Portland State University was not untouched by the wave of curricular reform efforts of the 1980's. A Committee to Review the Undergraduate Program was created in 1979 with the initial charge to "review what currently exists to see if our student's needs are being met." (PSU Faculty Senate Proceedings: May 7, 1979) Later, at that same meeting, the charge of the committee was revised to both examine existing requirements and "make any recommendations it thinks appropriate." Soon after, the committee became known as the General Education Committee. This began a six year journey of discussion, recommendations, and review which culminated in 1985 with Senate approval of a set of requirements which, with the exception of the subsequent addition of the diversity requirement, continue as this University's approach to the general education of its students.

That General Education Committee worked long and hard to produce a set of proposals which would have resulted in significant change and certainly meaningful improvement over the previous, largely unstructured distribution requirements. Debate over these proposals was heated, occasionally acrimonious, and included several contentious issues which were temporarily set aside. Many of these have re-emerged during the work of the present General Education Working Group. Our discussion of those debates is based on a review of PSU Faculty Senate Proceedings from 1979 to 1986 and a 1985 memo from then Vice-president for Academic Affairs Margaret Dobson to the faculty which presented the proposals of the General Education Committee and the recommendations of the Academic Requirements Committee.

Among the themes of the curricular history of Portland State University is the absence of any record of any statement regarding the goals of general education. Early in its work that previous committee informed the Faculty Senate that it "has been unable to find any past statement regarding the goals and objectives of the existing general education requirements nor any expression of University philosophy about general education." The current Working Group has similarly been unable to discover any statement of purpose or philosophy about past or current general education requirements. We are also unable to discover any consideration of educational goals and objectives in our review of Faculty Senate Proceedings. As far as we are aware, the only statement of the purpose, goals, and/or objectives of the general education requirements is the following statement from the Portland State University Bulletin:

> The general education requirement is the means by which the University seeks to develop a student's breadth of knowledge and appreciation for

> subjects different in content and method from the one in which the student majors (PSU, 1993: 24)

Two points follow from this statement. First, general education at Portland State is set forth as a requirement rather than a program of study leading to a set of articulated objectives. Second, while the Working Group appreciates the expressed goal of achieving breadth in students' educations, we consider this to be but one among several purposes of a general education program.

A second theme of the 1979-85 effort to propose and accomplish significant curricular reform was that of the "transfer problem," which is an especially important part of this University's context. Approximately 80 per cent of the graduates of PSU offer at least some transfer credits. The previous General Education Committee offered several different reform proposals including a more tightly drawn set of distribution requirements focused on six areas of inquiry, a competency exam for upper division work taken prior to the accumulation of 135 credits (and which would be taken by upper division transfer students during their first term in residence), and strengthened writing requirements. Several of the criticisms of those proposals were based upon assertions about the consequences of those changes for transfer students. These arguments proved to be quite damaging to that Committee's proposals. The lesson for the present Working Group was that the "transfer problem" must be a part of any proposals, particularly in light of the block transfer program from the community colleges.

Finally, a third lesson from that previous effort was the intractability of the "problem of general education" when that problem is defined as a matter of what fields should be covered and what should be the required distribution of coursework. Any change in general education requirements is often perceived to pose potential threats to departments. The consequences for enrollment patterns and the assumption that allocation of institutional resources follows the generation of student credit hours make the debate one of the protection of the vital interests of departments and schools. Shifts in distribution requirements, even more than change from department-based distribution courses to some other model, seem to render the perceived stakes even higher. Some departments stand to gain at some other department's expense. The result of these debates is typically a truce among contending departments wherein none of the combatants either gains or loses appreciably.

Apparently, the 1985 recommendations were perceived to shift the existing balance among departments to too great an extent. The reaction was substantial and the outcome was marginal change characterized by some tightening of the requirements. The Academic Requirements Committee (ARC) reviewed the General Education Committee

proposals and largely rejected them. The ARC instead submitted its own recommendations. The result was that the initial Senate debate on the reform of general education was over two proposals in addition to the question of whether any change was needed at all.

That debate was characterized by concerns over a range of issues including the changes in the spread of required courses among the social sciences, the natural sciences and the humanities; the possibility of participation by faculty and courses from the professional schools; the issue of departmental autonomy in determining which courses would be included; the presumed consequences for transfer students; the writing and HPE requirements; and the appropriateness of restricting students to work in two departments in each of the general distribution areas. *We were unable to find discussion of goals and objectives or of the relationship of the proposals to student learning.*

During several meetings in the Spring of 1985 the Faculty Senate gradually worked toward taking the two proposals before it and ultimately shaped them into a third alternative. It is ultimately this proposal which was approved on June 3, 1985. However, the contentiousness of the issues raised in the discussion of distribution requirements was not ended as decisions remained to be made as to what departments and what departmental courses could be used to meet these requirements. Are all departmental offerings appropriate? Are the offerings of Art, Music, and Dance to be included even though those departments are no longer housed in the College of Liberal Arts and Sciences? Ultimately it was decided that the offerings of those departments would be included.

The more telling struggle was over which courses would count toward meeting the distribution requirements and who would decide. The initial decision was that the Academic Requirements Committee would evaluate the content of courses to determine whether they would go toward meeting the distribution requirements. During the 1985-86 academic year the objective was to reduce the number of eligible courses so as to enhance the coherence of the requirements. In spite of that intention, it was observed that during that academic year 56 percent of the total offerings of the University could be used to meet the distribution requirements. Since then the determination of which courses would count toward meeting the requirements has shifted to departments. At present those departments within the distribution areas can identify courses which the department believes should *not* be allowed to count toward fulfilling the distribution requirements. There is no longer an effort by any committee to screen and determine which courses should be included. The result can be seen by reviewing the "General Education Exclusion List" on page 24 of the current PSU Bulletin. With the exception of these few

courses, all courses offered by the appropriate departments can be used by students to meet the current general education requirement.

The significant efforts of the General Education Committee to bring about more structure and coherence to that part of PSU's curriculum required of all students foundered upon the dilemmas of the "transfer problem" and departmental interests flowing from concerns about the consequences of changes in department generation of student credit hours. The "reform" at Portland State University amounted to strengthening the writing requirement and attempting to tighten the distribution requirements by limiting to two the number of departments from which courses can be drawn in each of the distribution areas (arts and letters, science, and social science). However, the practical effect of this attempt to tighten the structure of requirements is diminished by the fact that nearly all courses offered by departments in the College of Liberal Arts and Sciences can be used to meet these requirements. This results in a dispersion of faculty resources and a loss of curricular coherence and integration within that part of the curriculum required of all students.

More recently, the problem of basing general education on distributions of existing courses has been illustrated by the experience of the diversity requirement, instituted for the 1992-93 academic year to address what ought to be an important component of the education of all students. Students are required to take two courses from an approved list of courses and these courses must be from different departments. The list of approved courses is determined by ARC recommendations to the Faculty Senate. Faculty and departments are required to submit potential diversity courses to the review of the ARC which bases its decisions on a set of criteria which have been distributed to departments and faculty. Given the reliance upon existing courses and a general distribution framework this was perhaps the only feasible option to implement the requirement. However, departments have incentives to have as many of their departmental offerings included on the approved list as possible because of the assumed effects on the generation of student credit hours. The result is the current (Oct., 1992) list of 102 eligible courses with a corresponding diminishing of the coherence and focus intended for this requirement.

The results of the changes adopted in 1985 would seem most appropriately to fall in the "Small Change" category identified by Gaff's research. Some aspects were tightened, but the number of eligible courses increased. Writing was given greater emphasis, PE courses were dropped, and a focus on diversity was given its legitimate place as a focus of inquiry for all students. For many PSU faculty the changes enacted in 1985 were hardly noticed, even when it came to advising students. And there was still no

clear statement or institutional sense of why these requirements were there at all. Many students and faculty alike continue to view the general education requirement as an imposition defining a set of obstacles to be overcome in the least strenuous manner.

In sum, general education at Portland State University continued to be perceived and treated as peripheral rather than as a program of integrated learning experiences reinforcing students' career aspirations as they pursue their majors, and as contributing to an educational experience which would place their chosen area of specialization in broader context. The Portland State reform experience appears to confirm Gaff's conclusion that institutions which made small revisions in their general education programs are less likely to experience positive effects from that change.

GENERAL EDUCATION GOALS: DISCUSSION AND RECOMMENDATIONS

In our previous report (May, 1993) we stated:

> Nationwide, general education programs are shifting from the purpose of transmitting specific substantive content to that of assisting students in making the critical transition from being receptors of "facts" to becoming lifelong learners. *The Working Group considers this to be the fundamental premise upon which we have built the more specific goals and strategies and the proposed model* (emphasis added).

As we worked to revise our report and respond to faculty comment the Working Group has become even more convinced that this ought to be the fundamental premise for our general education curriculum. It also holds the promise of informing a program which will include educational experiences responsive to the expectations of students and faculty alike.

When the problem of general education is addressed from the perspective of "What should students know?" the common response is to identify various kinds of knowledge and to decide which knowledge should be common for all students. The assumption has been and often continues to be that there is a common core of knowledge that should be possessed by all educated persons (Gaff, 1991:15). That is, general education should consist of courses the purpose of which is to transmit that knowledge which faculty define as being essential for an "educated person." An "educated person" is thought of as a state of being produced by a student's baccalaureate program. The resultant problem for faculty is to agree upon what that knowledge is, how much of each component is essential, and how to pass that knowledge from professor to student.

As was discussed earlier, American higher education has largely lacked consensus upon what that knowledge should be and often that debate is not entered into because of departmental concern over the generation of student numbers. The Portland State experience between 1979 and 1985 well illustrates these points. Indeed, we suspect that our faculty would be hard pressed to collectively agree upon what books should be included in a "Great Books" approach. It would undoubtedly be even more difficult for us to derive a degree of consensus as to the justifications for our selections. Most often this task is left to the humanities faculty and ignored by the rest of the campus.

As this Working Group began to address the question of what should students know, we added an additional concern. We should be concerned about what students should know but also with what students should know how to do. Once this perspective entered our deliberations, our direction and focus was fundamentally altered. In retrospect the appropriate response was obvious: students should know how to learn. But our meaning is broader than simple acquisition of a list of skills such as how to write a complete sentence or manipulate a spread sheet.

A 1988 report of the Task Force on General Education to the American Association of Colleges includes a brief summary of research by William Perry on student intellectual development which well captures the committee's meaning when we assert that general education should assist students in making the transition from "receptors of facts" to lifelong learners. The intellectual development of students begins with:

> ...an authority bound phase in which students look for the right answer and want to be told, rather than investigate. When they find out that answers to many problems are tentative and controversial, they move into a position Perry terms "multiplicity," in which one opinion seems as good as the other, their own and the teacher's included. Students can be challenged to move beyond this subjectivism through the discovery that there are competent and incompetent ways to gather evidence and develop and test hypotheses. Then they can learn that while there are no final certitudes, there are ways to develop responsible, disciplined, and flexible theories and positions. *At the heart of Perry's work and that of other observers of student intellectual development is a powerful yet simple observation: Students gain intellectual sophistication when they must confront and assess competing and equally well-argued perspectives on an issue or solutions to a problem* (Katz, et al., 1988: 11, emphasis added).

It is this understanding of student development which provides the core for the goals we articulate and the curricular approaches we recommend. We faculty must remember that many of our students will be engaged in careers and/or assume job functions that have not yet been invented. Others will experience professionally active

lives during which they will change jobs or job functions eight to ten times. Some will face an ongoing task of evaluating and analyzing new information and incorporating new technologies into their professional activities, as well as most aspects of their private lives (Kiechel, 1993).

Our objectives for general education, the structure of that program, and our delivery of that curriculum must take cognizance of student intellectual development and be consciously directed toward assisting students to gain in intellectual sophistication. Included within the meaning of lifelong learning is not only the ability to engage in sophisticated modes of inquiry but also the propensity to do so. Without the propensity to engage in learning, the ability to learn is not particularly meaningful to the lives of individuals. Thus, courses in general education should be directed toward instilling a range of interests and curiosities as well as empowering students to engage those curiosities through sophisticated inquiry.

Our structuring of these arguments, discussions, and understandings into a statement of purpose along with attendant goals and strategies which we recommend to the PSU campus community is set forth below. By stating the purpose of general education at Portland State University to be facilitation of life long learning, we are suggesting an understanding of the concept "educated person" that is different from that state of being following 186 credits. ***We recommend instead a vision and a purpose that understands an "educated person" to be one in a state of becoming, engaged in a life-long enterprise which is never complete.***

PURPOSE AND GOALS FOR GENERAL EDUCATION AT PORTLAND STATE UNIVERSITY

PURPOSE

The purpose of the general education program at Portland State University is to facilitate the acquisition of the knowledge, abilities, and attitudes which will form a foundation for life-long learning among its students. This foundation includes the capacity and the propensity to engage in inquiry and critical thinking, to use various forms of communication for learning and expression, to gain an awareness of the broader human experience and its environment, and appreciate the responsibilities of persons to themselves, to each other, and to community.

GOALS

INQUIRY AND CRITICAL THINKING.

To provide an integrated educational experience that will be supportive of and complement programs and majors and which will contribute to ongoing, life-long inquiry and learning after completing undergraduate education at Portland State University.

Strategies

1. Assist development of critical reasoning and the ability to engage in inquiry.
2. Assist development of the capability to evaluate differing theories, modes of inquiry, systems of knowledge, and knowledge claims.
3. Achieve an intelligent acquaintance with a range of modes and styles of inquiry and social construction.
4. Assist development of the ability to understand and critically evaluate information presented in the form of graphics and other visual media.
5. Assist development of the ability to use writing as a way of thinking, of discovering ideas, and of making meaning as well as expressing it.
6. Assist development of the ability to critically evaluate numerical information.
7. Enhance student familiarity with science and scientific inquiry.
8. Enhance student familiarity with and capabilities to employ current technologies to facilitate learning and inquiry.
9. Enhance awareness of and appreciation for the interconnections among the specialized areas of knowledge encompassed by disciplines and programs.
10. Provide awareness of choices among academic disciplines and programs.
11. Provide students with an opportunity to explore applications of their chosen fields of study.

Goal 2. COMMUNICATION.

To provide an integrated educational experience that will have as a primary focus enhancement of the ability to communicate what has been learned.

Strategies

1. Enhance student ability to express what is intended in several forms of written and oral communication.
2. Assist students to develop the ability to create and use graphics and other forms of visual communication.
3. Enhance student ability to communicate quantitative concepts.
4. Develop student ability to employ current technologies to assist communication.

Goal 3. HUMAN EXPERIENCE.

To provide an integrated education that will increase understanding of the human experience. This includes emphasis upon scientific, social, multicultural, environmental, and artistic components to that experience and the full realization of human potential as individuals and communities.

1. Enhance awareness and appreciation of societal diversity in the local, national, and global communities.
2. Explore the evolution of human civilization from differing disciplinary and cultural perspectives.
3. Explore the course and implications of scientific and technological change.
4. Develop an appreciation of the aesthetic and intellectual components of the human experience in literature and the arts.

5. Explore the relationship between physical, intellectual, emotional, and social well-being including the means by which self-actualization is developed and maintained throughout life.
6. Explore and appreciate the aesthetics of artistic expression and the contributions of the fine and performing arts and of human movement/sport/play to the quality of life.
7. Develop the capacity to adapt to life challenges and to foster human development (including intellectual, physical, social and emotional dimensions) amongst self and others throughout the life span.

Goal 4. ETHICAL ISSUES AND SOCIAL RESPONSIBILITY.

Provide an integrated educational experience that develops an appreciation for and understanding of the relationships among personal, societal, and global well-being and the personal implications of such issues as the bases of ethical judgment, societal diversity, and the expectations of social responsibility.

1. Appreciate the impact of life choices on personal, social, and environmental health.
2. Gain an understanding of ethical dilemmas confronted by individuals, groups, and communities and the foundations upon which resolution might be possible.
3. Practice and test one's capacities to engage the ethical, interactive, and organizational challenges of the present era.
4. Explore the personal implications and responsibilities in creating an ethical and safe familial environment, neighborhood, work environment, society, and global community.
5. Explore and appreciate the role of diversity in achieving environmental, social, and personal health.
6. Gain familiarity with the values, foundations, and responsibilities of democratic society.

We expect this statement of purpose, goals, and strategies to accomplish three objectives. First, it defines the philosophy for general education and establishes a purpose and goals which can be communicated to faculty and students. Second, it establishes criteria for course development. Finally, assessment of courses and the program will be based upon the purpose and the four goal areas.

As we discussed earlier, the Working Group was not able to find any statement of purpose or philosophy for general education at Portland State University beyond that stated in the PSU Bulletin. Faculty often find it difficult to explain to students why they must take courses in the manner prescribed other than it is required that they do so. Both faculty and students tend to see the current requirements as hurdles which must be overcome and many do not perceive what are the educational purposes and benefits which follow from meeting the requirements and as a consequence do not strongly support them. Building a general education program linked to an articulated purpose

with attendant goals and strategies would clarify for students and faculty the rationale for that program.

The program we are recommending does not specify particular courses. Rather, it relies upon faculty and/or groups of faculty to develop either separate individual courses or sequences of courses for the program. Course proposals will have to clearly demonstrate how they touch upon differing combinations of strategies to contribute to student development as set forth in the goals. Among the tasks of a faculty oversight committee will be to review course proposals and assess their promise for contributing toward the purpose and goals of the general education program.

Assessment and evaluation are integral ingredients of the program we are recommending. Individual courses will be reviewed each time they are offered and the overall program will be assessed annually. The standards for that assessment will be grounded in the purpose, goals, and strategies adopted for the program. Again, the question which must be central to our planning for and evaluation of general education is whether we can state with conviction that what we require of students is meaningful. For the program we recommend, the response to that critical question is determined in relation to the articulated purpose, goals, and strategies.

The Working Group understands that within the confines of the recommended program of study it is unlikely that a student will encounter each of the strategies and that students will not equally attain each of the goals. Our students enter Portland State University with a range of abilities, prior educations, as well as differing contexts. We do expect that all students will make significant and demonstrable progress toward program objectives as they move through both the general education program and their majors. Graduates of Portland State University will have attained that level of expertise deemed requisite by their majors and will have encountered a structured program of educational experiences which will have contributed to their ability and propensity to engage in life-long learning.

STUDENTS AND GENERAL EDUCATION: ASPIRATIONS, SATISFACTION, AND LEARNING

It is often the case when faculty debate curricular requirements, especially general education, we focus on the form and content of those requirements. Only rarely do we seek to examine what is known about the demand side of higher education as expressed through student expectations and aspirations. Nor is it typical that the effects—of what we require and how that is delivered—on the outcomes of student learning and satisfaction are central to the deliberations of curriculum committees. Rather, those are

most often assumed. And rarely is it the case that curricular efforts include consideration of student characteristics and how those may effect the learning goals of curriculum structure, content, and delivery.

In the first part of this section we review research on student aspirations and expectations. Then we examine the extent to which those expressed by Portland State students are similar to findings from other institutions. From this we turn to a presentation of research findings on student satisfaction and learning outcomes and explore the implications of that research for students at Portland State University. Here we briefly consider the implications of this research for the problem of retention. Finally, we review research into the relationships between different curricular approaches to general education and student learning.

These studies were especially influential on the Working Group as we sought to formulate an approach to general education. We are convinced that to be successful, a program of study required of all students must be attentive to student aspirations, positively contribute to student satisfaction with their university experience, and be delivered in a manner which facilitates learning outcomes.

Student Aspirations

It is no secret that most students enter higher education with preparation for a career as their primary goal. A review of the results of several surveys of student goals and reasons for attending college reports that career goals and mastery of specific bodies of knowledge are consistently selected by substantial majorities of the respondents and are generally found to be the top two or among the three goals most frequently (Johnston, et al., 1991: 184). Importantly, these studies also found that support for general education is only moderately below that for career preparation. The implication is that students enter college not just to receive career training but also to a significant degree seek to gain "a well rounded education" or a good "general education" (Johnston, et al., 1991: 185-186). Students appear to understand and value the educational and instrumental purposes of general education. They wish to become more broadly educated (Twombly, 1992).

Students entering Portland State University express goals and aspirations that are quite similar to those found among students at other universities. Responses from students entering in 1992 evaluating the importance of several different reasons for attending Portland State University are summarized in the following table.

How important is each of t e following to you as a reason for studying at PSU at this time?

	Not Important At All	Not Very Important	Neutral	Important	Very Important
Gaining a Broad-Based General Education					
High School	2%	9%	2 %	46%	21%
Tra sfer	5	7	22	42	24
Preparing for a Career					
High School	1	1	7	27	64
Transfer	1	1	7	31	59
Changing Careers					
High School	42	9	35	10	4
Transfer	29	10	31	14	16
Increasing Potential Income					
High School	8	5	16	34	36
Transfer	5	6	13	37	40
Family Expectations					
High School	13	17	28	28	15
Transfer	20	8	32	25	16
College Degree					
High School	1	1	7	24	66
Transfer	3	1	5	22	68
Meeting Others					
High School	8	10	32	37	13
Transfer	14	11	38	31	7
Enriching My Life					
High School	2	4	19	41	34
Transfer	4	4	14	42	37
Prepare for Graduate or Professional School					
High Sch l	8	4	19	26	43
Transfer	6	6	23	28	37

As expected, students entering from high school and transfer students place great emphasis on career goals as reasons for studying at Portland State University. These data also show that substantial majorities of PSU students place significant value upon becoming more generally educated and the expectation that higher education will include life enriching experiences.

What is not clear from this survey of entering PSU students and from others across t e nation is precisely what students mean by becoming generally educated. What

can be inferred is that students aspire to an education which is more broadly conceived than just career preparation.

Student Evaluation of General Education

While students place a high value on general education, they report negative reactions to the general education courses they are required to take. These tend to be viewed as impositions rather than being opportunities for intellectual growth. Students often perceive little connection between the courses required to meet general education requirements and education related to their career aspirations. In general, recent studies have found little support for general education understood as the learning of content areas (Johnston, et al., 1991 and Twombly, 1992).

One study based on a sample of students drawn from ten very different institutions asked students to rate their satisfaction with courses in their majors, electives, and general education requirements. Fifty-two percent of these said they were very satisfied with courses in their majors, 40 per cent were very satisfied with elective courses, and only 20 percent were very satisfied with courses taken to meet general education requirements (Gaff and Davis, 1981: 116).

An additional finding was that when students were asked to rate the importance of several factors to their "overall personal and intellectual development at this college" only some 30 per cent of junior and senior students rated courses outside their major as being very important to their educational development. These courses were rated below such items as "off-campus social, cultural and work activities; talking or working informally with faculty; and campus activities, clubs or social life. The authors summarize these findings with the telling observation that "the striking thing is that students reported that the majority of courses required for graduation outside their majors failed to accomplish each" of the several often stated purposes for general education such as stimulating curiosity or contributing to a broad intellectual foundation (Gaff and Davis, 1981: 117).

Another study based on a focus group design found that students had relatively low regard for courses in disciplines outside the major which were required to be meet the general education requirements. Students choose less on the basis of interest than on the basis of course availability, tend to be less engaged with the coursework than the majors, and report spending less time studying for courses taken to meet general education distribution requirements. They evidenced a lack of understanding of the purposes of the requirements and in a related finding many saw little relevance of the courses to either their immediate or future lives (Twombly, 1992).

Supportive of those findings are some further results from the Gaff and Davis study. Students were asked to rate the importance of several competencies often included among the objectives in statements of general education purposes. The most highly rated were two non-cognitive objectives: understanding of self and the ability to get along with people. Items which can be summarized under the rubric of developing communication abilities and intellectual sophistication comprise a second highly valued set of objectives for students. Least valued are several of the content areas which are often included in general education requirements. Not one of these content areas—history; science and technology; philosophy; literature; and so forth—was rated as very important by a majority of these students (Gaff and Davis, 1981: 114-115).

While it is the case that it is not clear what students mean when they say that an important reason for entering higher education is to become generally educated, this research suggests some possibilities as well as a somewhat sharper understanding of what students do not value highly. Students do seek educational experiences that sharpen their academic abilities and provide them with the means to pursue their separate curiosities. The significantly lesser degree of importance given to areas of knowledge outside the major runs precisely counter to the assumptions of many faculty and calls into question the value of expending enormous amounts of energy and time trying to agree on what students ought to know. Gaff and Davis conclude that while mastery of the subject matter of the major is deemed very important by students, for general education it is the case that "the development of thinking skills, communication skills, and personal and interpersonal competence are more important than the mastery of any particular content" (Gaff and Davis, 1981: 116).

On the basis of these findings, the Working Group concluded that an essential component of the foundation for building an effective general education program is to be found in the perceptions of students. On the basis of his experience with the Harvard Assessment Seminars, Richard Light observes:

> Students have thought a lot about what works for them. We can learn much from their insights. Often their insights are far more helpful, and more subtle, than a vague "common wisdom" about how faculty members can help students to make good decisions at college (Light, 1992: 6).

Students do have reactions to their university experiences, they know the circumstances in which they were intellectually challenged, motivated to learn, and empowered by the accomplishment of individual discovery. Students are also very clear about the types of experiences which were more negative than positive, something to be gotten through rather instilling the joy of learning. Their views as to the structure, content, and delivery of general education should be part of the design of any program.

The general education program we recommend was consciously and deliberately designed to be responsive to student aspirations and consistent with the academic goals of Portland State University.

Factors Affecting Student Learning Outcomes

As the members of the Working Group discussed how to design a general education program that would work toward accomplishing the purpose and goals of general education at Portland State University we became aware that student learning is significantly affected by a number of factors unrelated to course content. In particular, our deliberations were very much influenced by the research of Alexander W. Astin (1992,1993). His research is based on analysis of information collected by the Higher Education Institute at UCLA which has compiled longitudinal data on some 500,000 students from more than 1300 institutions of all types.

Astin finds that the degree to which students feel themselves to be part of a campus community and the extent to which they are involved (engaged) with their campus and their educations are major influences on student learning outcomes. Both are strongly affected by peer influences. The strongest negative effect on student satisfaction is lack of student community particularly when this is reinforced by peer attitudes (Astin, 1993: 279, 426). When students feel themselves to be part of a campus community both socially and academically not only does satisfaction increase, so also do academic outcomes. Both community and involvement are significantly affected by the frequency and the content of student-student and student-faculty interactions.

While curriculum cannot by itself suddenly create a sense of identity with the campus community and or enhance student engagement with their educations, conscious attention to these issues can contribute. Curriculum can be designed to be delivered in a manner which encourages faculty-student interaction and which facilitates the development of student community and encourages student involvement. For example, many institutions are attempting to encourage the formation of learning communities wherein students progress together through at least some part of their university experience. This structure has been found to promote student connections and engagement through shared educational experiences. It enhances community. A decline in a sense of loneliness and alienation among students and improved retention rates are reported to result from this curricular structure (Gabelnick, et al., 1992).

We understand that full implementation of the learning community approach at Portland State would be problematic at best. The large numbers of transfer students and the reality that many of our students at least temporarily interrupt their programs means

that we cannot design a program based upon the assumption that students will continuously enroll. However, we have sought to design the freshman portion of the recommended program in a manner that will encourage the building of learning community experiences for at least those students.

More specific direction for the Working Group was provided by Astin's longitudinal analysis of students at 159 institutions. Among the environmental, non-content factors found to significantly enhance general education outcomes are (Astin, 1992: 30):

- Student-Student Interaction.
- Student-Faculty Interaction.
- A Faculty That Is Very Student-Oriented.
- Discussing Racial/Ethnic Issues With Other Students.
- Hours Devoted To Studying.
- Tutoring Other Students.
- Socializing With Students of Different Race/Ethnicity.
- A Student Body That Has High Socioeconomic Status.
- An Institutional Emphasis On Diversity.
- A Faculty That Is Positive About The General Education Program.

Factors found to have a significant negative effects on general education outcomes include (Astin, 1992: 36):

- Living At Home; Commuting.
- Watching Television.
- Large Institutional Size.
- Lack of Community Among Students.
- Frequent Use of TA's.
- Full-time Employment; Off-Campus Employment.

These findings are quite striking and had an important affect on the features of the program we recommend. The list of negative environmental factors describes the context for many of our students. According to the 1992 entering student survey 79 per cent of entering freshmen and 81 per cent of entering transfer students indicated that they planned to work while attending PSU. Most of our students do not live on campus and commute to the University, PSU is a large institution, and a consistent complaint expressed by our students is the absence of a sense of campus community.

Over 51 per cent of the freshmen and over 40 per cent of the transfer students surveyed by the Office of Institutional Research disagreed or strongly disagreed with the following statement: "I have met a faculty member I can talk to" (OIR, 1993a). These findings suggest that many of our students feel isolated from the faculty.

Another characteristic of our students is that many are first generation university students. Fifty-two per cent of the 1992 entering students surveyed report that neither of their parents had completed a two year or four year degree program. Twenty-three per cent indicate that neither parent had attended college at all.

The university experience is often significantly different for those who are breaking a family tradition from those who enroll as an expected continuation of both their own education and family history. Often, these first generation students are racial or ethnic minorities which further exacerbates the often difficult transition from secondary to higher education. Peer pressures in the neighborhood, some lack of family appreciation for the pressures of the university experience, and what is often a cultural disjunction place significant stresses on these students. They are at risk. It is for these students that the need for community and the validation of their decision to enter higher education is most acute (Terenzini, et al., 1993).

Implications for Retention

A serious issue for this University is student retention. We noted earlier that only 23 per cent of the students who enter PSU as freshmen continue to complete their degrees at this institution. Further, since 1986 between 33 and 45 percent of entering, full-time freshmen do not return for the second year. Changes in general education requirements are found to have an effect on student retention. Fifty-eight per cent of the institutions which adopted comprehensive reform of general education reported positive consequences for the retention of students (Gaff, 1991:95). The question is whether the program we recommend speaks to the problem of student retention at Portland State University.

In two reports to the PSU Committee on Undergraduate Retention, Professor David Wrench, Psychology, presented his analysis of 1991 entering student survey items. In his first report Wrench focused upon items and indices related to retention of students from the Fall quarter to the Spring quarter. He concluded that a supportive campus social environment is essential to retention and that having a faculty member one can talk to is highly related to whether a student completes the academic year (Wrench, 1992). In his second report Wrench focused upon retention from Fall 1991 to Fall 1992. Social support and a feeling that the institution is caring again emerge as important factors. Also the number of hours students work, whether PSU offers the programs desired, and advising and information were established as being related to retention from one year to the next (Wrench, 1993).

In many respects Wrench's findings conform with Astin's conclusions about factors related to student satisfaction and learning. The context within which many of our students seek a university education includes several factors which have been found to be negatively related to their success. Reform of general education cannot change that reality. It can, however, seek to provide learning opportunities which emphasize positive influences. It can assist the development of community and increases in faculty-student and student-student interaction. The general education program we recommend has been developed to create the opportunity to improve those aspects of the university environment.

General Education Approaches and Learning Outcomes

As was discussed earlier in this report, the general education reform movement of the 1980's resulted in differing curricular approaches being adopted at a number of campuses. The question is whether the changes adopted are related to enhancements of student learning and improvement in their overall satisfaction with the university experience.

On the basis of his research Astin concludes that the "true-core" interdisciplinary approach is the only general education curriculum which appears to have a significant and positive effect on student development outcomes and student satisfaction which is independent of other factors (Astin, 1993: 425). Different variations of the distribution strategy to delivering general education were not found to make much difference when other factors are taken into account.

Ernest L. Boyer argues for a similar direction. He finds general education to be in considerable difficulty across the country and argues that students need to go beyond their majors to a "more integrated view of knowledge and a more authentic view of life" (Boyer, 1987: 90). In order to be complete, general education must be structured so that the overlapping of the disciplines can be explored by students. To achieve this he argues on behalf of the integrated core approach which he defines as (Boyer, 1987: 91):

> ...a program of general education that introduces students not only to essential knowledge, but also to connections across disciplines, and, in the end, to the application of knowledge to life beyond the campus. The integrated core concerns itself with the universal experiences that are common to all people, with those shared activities without which human relationships are diminished and the quality of life reduced.

These conclusions are modified somewhat by the conclusions of a study attempting to classify general education programs into different categories and then exploring the relationships of these to a range of measures of student behavior and

perceptions of their academic environments (Hurtado, Astin, Dey, 1991). This study is based upon a sample of 17,161 students at 190 institutions. Developing a taxonomy for general education programs is at best a difficult enterprise. The programs adopted by colleges and universities are very much influenced by their individual contexts and often include elements which overlap from one category to another. Some 90 per cent of American institutions of higher education are found to base some or all of their requirements on some variation of the distribution model. Only about 5 per cent rely on an interdisciplinary, "true core" program in which all students take precisely the same courses. The remainder include Major Determined Programs wherein each major determines the general education requirements for its students.

Within the distribution category there is considerable variation. The categories determined by a factor analysis of general education requirements include: "diverse offerings" or programs which generally lack strict requirements and include a number of course offerings, "personalized or individualized curricula" which include required experiences that ask students individually to apply skills and knowledge acquired throughout the program, and "integrative/interdisciplinary" approaches which require students to take a number of integrative and/or interdisciplinary courses such as a "capstone" experience (Hurtado, Astin, Dey, 1991: 142).

The current general education requirements at PSU would appear to best fall into the "Diverse" category. The program we are recommending is best characterized as combining elements of the "personalized/individualized" and "integrative/ interdisciplinary" approaches.

The "diverse" approach is found to have several negative relationships not associated with programs falling in the other categories. Students fulfilling "diverse" general education requirements were less likely to report that they had worked on group projects, given class presentations, or spent a lot of time attending classes or labs during the previous year. Further, students in institutions whose requirements fall into this category were also found to perceive less attention to student development. Negative relationships were found for perceived institutional priorities to develop leadership ability among students, helping students examine and understand personal values, and facilitate student involvement in community service. The authors conclude:

> "actual classroom experiences in a diverse program may be a less unifying educational experience for students than other curriculum types. In sum, the evidence indicates that a "diverse" approach to general education is deficient in providing a unifying educational experience and that students perceive less institutional attention to student development than is the case at institutions with other curricular structures. ....Perhaps the bright and motivated students may benefit the most in institutions that have adopted a

> diverse curriculum structure, since much appears to be left up to the student to find (as in a college honors program) or build their own coherent curricular program in college (Hurtado, Astin, Dey, 1991: 152).

Research conducted by James Ratcliff and Elizabeth Jones (Jones and Ratcliff, 1991; Ratcliff, 1992; Jones, 1992) builds upon assessment of student learning through analysis of transcripts and the relationships of course patterns to nine broad categories of learning from the SAT and GRE scores. Their findings argue against the establishment of a common core required of all students. Students learn differently and not all courses are best suited for the learning of all students. However, these results also do not support the current wide range of options characteristic of "diverse" general education requirements. Different course combinations are found to contribute to different types of gains in student learning.

> Quantitative abilities are not developed solely in lower-division mathematics courses: they are enhanced through an array of select applied science, social science, and business courses as well. General learning is not confined to lower division; upper-division courses contribute strongly to the development of specific learned abilities, particularly analytic reasoning (Jones and Ratcliff, 1991: 100).

On the basis of these findings Jones and Ratcliff recommend discrete arrays or clusters of courses from different disciplinary perspectives constructed to build cumulative learning as the approach best suited to contribute to student learning. This is particularly so for students who enter the university with less preparation in terms of knowledge or learning abilities (Jones, 1992: 43). This research points out that our students come to us with a range of abilities, interests, and preparations. It is those students who are less well prepared who will benefit the least from a wide range of course options to fulfill general education requirements.

A further body of research which provided guidance to the Working Group was that of Richard Light drawing from the Harvard Assessment Seminars (Light, 1990, 1992). Three findings were particularly influential on our deliberations. First, this research clearly sets for the importance of frequent, immediate assessment, and detailed assessment. This was found to be crucial for course effectiveness (Light, 1990: 31).

The second point is that even though studies of student achievement have shown that class size does not well predict actual learning as measured by test scores, small interactive classes do result in increased community, engagement with learning, and faculty-student interaction. In particular, freshmen who are often required to take a number of large introductory classes should have at least one smaller sized class (Light, 1990: 70; 1992: 19).

Finally, the Harvard studies highlight the importance student study groups being explicitly built in as part of the course structure. Student involvement with courses is increased. And from the process of working in a group they encounter and learn a number of lessons about exchanging ideas, moving a group forward, and how to disagree in a group setting (Light, 1990: 71). Harvard has found that mentored clusters of students has had significant payoffs for their students.

As noted at the outset of this section, research on general education and its delivery as related to student learning and satisfaction outcomes suggest a number of directions to those involved with curricular change. Students aspire to a broad, enriching education but often do not find that goal met by existing delivery structures based on the distribution of courses among selected fields and departments. They prefer more integration and coherence in their programs but also wish to maintain choices among course options (Gaff and Davis, 1981:118). The research supports am interdisciplinary, thematic approach, more tightly structured clusters of courses, an interdisciplinary core, use of mentored clusters, extension throughout the four years, linkage of the program to articulated goals. Of particular note is that this research provides evidence that student learning is the product of much more than the subject matter "depth" of courses. The goals for general education can be only partially be achieved through the lecture exchange between professor and student. Courses and curriculum for general education must take specific cognizance of the range of factors which have been found to be positively and negatively related to student development.

The Working Group came to the understanding that to be effective and to achieve the goals intended curriculum needs to be structured and delivered in ways which respond to the characteristics of our students and to what is known about factors influencing learning outcomes. Curriculum can not address the real context of our students much of which works against attainment of educational goals. We can, however, and indeed must develop curriculum which emphasizes and consciously strives to enhance those experiences which have been found to positively influence learning outcomes. Emphasis on student-student interaction, faculty-student interaction, student tutoring, emphasis on groups of students progressing through at least some part of their program together, constructing a general education program about which faculty can be positive are all points which can be affected by changes in the general education program. The program we are recommending to you includes each of those points.

A GENERAL EDUCATION PROGRAM FOR PORTLAND STATE UNIVERSITY

Our recommended program for the general education of Portland State students is based primarily upon the purpose and goals for general education articulated in the previous section. Research on student goals and expectations, on factors which affect learning positively and negatively, and research on the relationships of different curricular structures designed to deliver general education to student learning and satisfaction were also important influences. We have sought to develop a program of study which consciously and deliberately applies these findings and recommendations to the particular context of Portland State University.

We begin with a comparison of current requirements and the recommended program. This is followed by separate discussions of each of the components of the program: freshman core, course clusters for sophomore through senior levels, and the senior capstone experience. In each section we offer several recommendations which touch on questions of program implementation.

Comparison Between Current and Recommended Requirements

The following comparison of current and recommended requirements leaves little question that the program we are recommending marks a significant departure from the long-standing distribution based general education requirements at Portland State University. It is a four year program of study. Heavy emphasis is placed on faculty-student and student-student interactions throughout the program. Small mentored discussion groups are integrated into the freshman core and sophomore level courses. Students will have choices throughout the program, but these will be structured integrated arrays or clusters of courses. We have sought to build into our recommendations features that have been found to positively contribute to student development. Other research based characteristics of the program will be pointed to as we discuss the separate components. Throughout the program the foundation and direction are based on the purpose and goals we recommend for general education at Portland State University.

Current Requirements	Credits	Recommended Requirements	Credits
1. 18 credits from two departments from each of the three academic distribution areas. 18 upper division credits must be earned in the academic distribution areas with no more than 12 in one department	54	1. Freshman Year Three Core Courses	15
2. Two courses (6 credits) of diversity coursework from the approved list. Courses must be taken from two different departments. These credits may be included within the above distribution requirement.		2. Sophomore Year Three 4 credit courses selected from different interdisciplinary programs or general education tracks.	12
3. Writing 121	3	3. Junior and Senior Years Complete one interdisciplinary program or general education track (four 3 credit courses).	12
4. Writing 323	3	4. Senior "Capstone" Experience	6
5. HPE 295	3		
(Minimum)	63		45

Number of Required Credits

The current 63 credit requirement is equivalent to 34 percent of the 186 credits needed for graduation. The recommended program reduces the credits required to 45 or 24 per cent of the number required for graduation. It should also be noted that the current 63 credit requirement is a minimum. Unless students and advisors are careful to coordinate the vertical field distributions with the horizontal upper and lower division requirements, students may end up having to complete some number of additional credits. Also, most upper division courses have lower division prerequisites. Students may be faced with having to complete additional courses to meet these prerequisites or find themselves in upper division classes for which they are unprepared. Finally, not all courses eligible to meet the diversity requirement can be used to meet the distribution requirements. Some of the courses on the approved list carry omnibus numbers (407, 410, etc.) and these cannot be applied to the distribution requirements. The net effect is that the number of student seats and the number of courses needed to deliver general education to our students will be less under our recommended program.

While its is simply not possible to foresee and plan for all possible student scenarios which might lead to complications, it is the case that the recommended program sets forth credit requirements which are more clear and pose fewer interpretation problems for students and faculty than is currently the case. Greater clarity and reduced complexity should contribute to improvements in student advising.

Transfer Students

During our deliberations we were made very aware of the reality that between 75 and 80 percent of our graduates offer at least some credits taken at other institutions. The magnitude of the transfer student issue is well illustrated by the fact that for the 1991-92 academic year there were nearly twice as many seniors (3,133) as freshmen (1,596) enrolled at PSU (OIR, 1992a: 25). Clearly, any general education program must take cognizance of this underlying characteristic of our University.

A key concern for transfer students is the equivalency of their coursework at other institutions to courses meeting the distribution requirements at Portland State. In addition to creating a substantial workload for those involved with transcript evaluation, the "equivalency problem" appears to generate a good deal of dissatisfaction among transfer students. A preliminary review of open ended comments from entering transfer students suggests that there is a considerable amount of dissatisfaction with both the evaluation process and the problem of equivalency in relation to the general education requirements. Having to repeat coursework, uncertainty as to which courses fall in which distribution area, a lack of clarity as to the purposes of the requirements, and a general frustration with having to meet requirements which may necessitate delaying graduation are among the general themes of these comments. Faculty, department heads, deans, and other administrators face a constant stream of petitions regarding equivalencies or requesting waivers from the requirements throughout the year with the pace quickening as graduation nears. Transfer students frequently experience difficulties with the present system and may encounter delays in graduation for purposes which often seem to them more bureaucratic than educational.

Our discussion of this issue was greatly assisted by the contributions of the representatives from the community colleges. They added significantly to our understanding of the Block Transfer program as well as the concerns of their students who are considering entering PSU. The Block Transfer program requires that the general education work at the community college level be considered to meet university lower division requirements for those students who complete the A.A. degree. All three area community colleges have revised their general education curriculum and require a good deal of their students.

A major concern of the community colleges was that no special requirements, such as a required series of courses or competency exam, be put in place for students transferring in as juniors. They correctly pointed out that such an approach within the general education program would create yet one more obstacle for these students which

would run counter to the intent of the Block Transfer program. Additionally, a special requirement which was not applicable to other PSU students would only encourage these and other transfer students to pursue other options.

Our response to the "transfer problem" is to recommend that the requirements of the general education program begin in relation to a student's class standing at the time they enter PSU. That is, a student entering as a sophomore would begin the general education program at that level. They would not be required to take the freshman core. Similarly, a junior would begin at that part of the program. Persons transferring in as seniors would be required to meet the upper division requirements of the program. This approach would respond to many of the concerns expressed by incoming transfers by effectively ending the problem of equivalency for at least the general education portion of their PSU programs.

Several of the written responses to our previous report commented that transfer students would not have had freshman core and might therefore be at a significant academic disadvantage. ***Our response is to recommend that the "Freshman Experience" seminars which will begin to be offered this Fall quarter be changed to "New Student Seminars" and that transfer students be strongly advised to take advantage of that opportunity.*** Those transfer students who do take this course will have the opportunity to begin building the bonds of community and sense of involvement which appear so important for student learning and satisfaction.

Writing Requirement

The program we recommend does not include a separate set of courses identified as writing courses. The Working Group is strongly committed to the premise that an essential component for all courses included in the program will be a demonstrable and substantial emphasis on communication as a component of learning. We consider the core of communication to be writing, but we also expect serious attention to be given to graphic, numeric, and oral means of learning and expression. This does not mean that each course will be expected to require an extensive research paper. Rather, each course through all four years of the program will be expected to include a variety of writing and other communication experiences. Writing, graphic, numeric, and oral modes of learning and expression will be taught and learned within course context rather than being isolated into two required courses which are often perceived as being separate from the subject matters being pursued by students. Writing and other forms of communication will become integrated into and part of the subject matter focused upon by different general education courses through all four years of the program.

Diversity Requirement

Similarly, the program does not include a separate, isolated diversity requirement. As was discussed earlier, the intentions and objectives of the diversity requirement have been diluted by the fact that at least 102 courses can be used to fulfill the two course requirement. As is the case throughout the current curriculum, there are individual courses which significantly and powerfully contribute to student learning in this area. Yet it is not clear how this list of individual, department based courses can consistently contribute to a coherent learning experience. Our recommended goals and strategies place strong emphasis upon student learning about diversity from a number of perspectives. Our goal is that Portland State University will begin to be among those universities and colleges which include these issues in coursework across the curriculum. Several of the curricular initiatives underway include a focus on these concerns and faculty will be encouraged to develop courses which address these issues. We believe that among the outcomes of the recommended program will be greater awareness and enhanced sensitivity among our students.

Health and Physical Education

Under the recommended program the current three credit Health and Physical Education requirement will be eliminated with the objectives of that course included within the general education goals and strategies. In response to the previous draft of this report, the faculty of the Department of Public Health Education presented to the General Education Working Group a set of carefully considered and thoughtful suggestions for strengthening the general education goals and strategies. Most of those suggestions were incorporated into the current draft and the Working Group is appreciative for that contribution to our development of this set of recommendations.

General Education Courses

Courses for the freshman core will be developed by those faculty who comprise core faculty for a given academic year. All university faculty will be invited and encouraged to develop courses for the sophomore through senior levels of the program. These could be developed by individuals or groups of faculty and could take the form of one separate course or a sequence or even a cluster of courses. A faculty advisory committee will review the extent to which course proposals incorporate the goals and strategies of the program into their subject matter and delivery. These courses would not carry a departmental prefix, rather they would be identified as general education courses.

This approach to course development for the general education program is a significant break with the distribution model. Currently courses developed primarily for majors by departments within the field areas constitute the curriculum for general education. Many of these existing courses serve two not altogether complimentary purposes. They are intended to contribute to the specialized expertise of majors and they are offered as contributing to the general education of all students. It is certainly foreseeable that these courses could be revised to incorporate the goals and strategies and then become part of the general education program.

This does not mean the necessary demise of the many excellent departmental courses which have successfully contributed to student learning. Many of our students will continue to need a large number of credits in addition to general education and major requirements. The number of additional credits needed by students varies considerably from program to program but can be as high as 96. Students will continue to search for courses outside their majors which are interesting and which are seen as contributing to their chosen area of specialization. The difference will be that students will not be taking these courses to fulfill distribution requirements; they will enroll in them because they are indeed interested in the course.

Faculty Development

If faculty are to be requested to participate in team taught freshman core courses and to develop courses for the general education program then the University must commit itself to ongoing, systematic program of faculty development. As Gaff's review of general education reform established, faculty development programs are increasingly part of curricular reform.

Historically, faculty development has meant gaining increasing expertise within one's chosen subject matter. The curricular reform movement of the 1980's brought an emphasis on the improvement in teaching and learning (Gaff, 1991: 102). Faculty are accustomed to development in terms of improving one's knowledge and recognition within a disciplinary structure. Most are less accustomed to attending workshops, seminars, or conferences which focus not upon subject matter but upon improving one's teaching. Attention to course organization, learning objectives, and classroom activities have not been part of the graduate school experience of most faculty nor have there been very many incentives or opportunities to carefully consider questions of pedagogy. A systematic program of faculty development is an important ingredient of our recommendations for general education at PSU.

The development program will have at least two major goals. The first is to improve knowledge about the topics which provide the focus for course clusters and for the freshman core. Faculty from different disciplines will work together to design and deliver courses and there will need to be the opportunity for faculty to improve their knowledge of the contributions of other disciplines to course topics. For the freshman core faculty we recommend establishing an ongoing seminar wherein faculty will read, discuss, and write about the core theme from the perspectives of several disciplines. For faculty organizing individual courses or course clusters for the sophomore, junior, and senior levels of the program we envision workshops and shorter seminars which focus on expectations of the general education program and upon collaborative course development.

The second objective will be to strengthen pedagogy. Here we expect there to be workshops and short seminars for faculty to become aware of different classroom activities and how those might be incorporated into her/his own classes. For example, the "one minute paper" assigned at the end of a class session and returned to students with feedback at the start of the next session has been found to have significant benefits for student learning (Light, 1991: 35-38). Among the purposes of these workshops will be to explore how these and other relatively "low-tech" and low cost innovations can be built into the classroom experience.

Another objective will be to provide support for faculty who wish to develop pedagogies including more "high-tech" innovations such as interactive video disks or multi-media presentations. Faculty know these possibilities exist but do not have the time or the resources on their own to gain the expertise needed to make effective use these technologies in the classroom. A program of faculty development which focuses upon strengthening pedagogy will provide at least the beginnings of the support needed.

At universities across the country faculty have responded to development programs with a good deal of enthusiasm. Increased collaboration across disciplines, enhanced pedagogical effectiveness, and improved student satisfaction with their learning experiences in general education courses have been among the reported results (Gaff, 1991: 108-109). Many faculty at Portland State University have reported similar positive experiences resulting from their participation in the current faculty development grant program and other development opportunities. ***We recommend that the University expand its current efforts and work toward a sustained, systematic commitment to a program of faculty development.***

Faculty Reward Structure

As the University guidelines are currently written; promotion, tenure, and merit pay decisions are not likely to be significantly affected by one's participation in the general education program. ***The Working Group strongly recommends that the guidelines on promotion, tenure, and merit pay be changed to include participation in the general education program as a separately identified component of the evaluation criteria.*** We believe that this change is absolutely essential in order to acknowledge and reward the significant commitments of time and expertise on the part of participating faculty and the overall contributions of those efforts to the University.

Phased Implementation

We recommend that the components of this program be phased in over a four year period. The freshman core would be implemented for all entering freshmen in the Fall of 1994. The sophomore courses would be prepared for the following year. The junior and senior level course clusters would begin in the Fall of 1996. Finally, the senior Capstone would be available beginning with the Fall Quarter of 1997.

Program Administration

During the course of our review of trends in the reform of general education it became apparent that the long term success of the program would require a clear administrative point of responsibility, authority, and support. No such administrative structure presently exists at Portland State University. ***We recommend that a person be designated to be the administrator of the general education program and that this be that person's primary administrative responsibility. We further recommend that this person be assisted and advised by a General Education Faculty Advisory Committee which will have the responsibility for overseeing and proposing changes in the program as it evolves. Finally, we recommend that the administration of the program be independent of the College of Liberal Arts and Sciences and the professional schools.***

The program we are recommending includes the premise that general education is the responsibility of all University faculty. Faculty in the professional schools have not in the past been able to participate by offering courses meeting the distribution requirements. Further, many are involved primarily at the graduate level. We believe that the participation of those colleagues will significantly add to the learning experiences of our students. We belief that an important aspect of the ability of this program to attract participation from professional school faculty will be the organizational independence of the program.

Freshman Core

The overall goal for the freshman core is to assist students make to transition from the "authority bound phase" to becoming increasingly sophisticated learners and thereby enhance their ability successfully engage their academic programs. As we have seen, our entering freshmen bring with them a range of contexts and abilities. Those contexts often include being a first generation university student, working, and commuting any one of which have been found to have a negative relationship to student learning and satisfaction. For many of our students their situations include two or more of those negative factors. Curriculum cannot address or alter those contexts, they form the reality for many of our students. However, a planned, coherent, and integrated program of study and the manner in which it is delivered can enhance factors found to be positively related to student development, particularly those related to involvement and community. Our design of the freshman core was specifically grounded on our understanding of those aspects of general education have been found to positively student prospects for successful academic achievement.

Structure

The three five credit courses required of all entering freshmen will be team taught organized around a general theme which will be adopted by the core faculty for each academic year, and extend through the entire academic year. As presently planned, there would be four faculty teams each consisting of five faculty, assisted by five student mentors, teaching 2/3 time in core. Faculty teams will have the freedom to develop the specific topics related to the general theme for their courses. During the year-long course those topics will be considered in some considerable depth from a variety of disciplinary perspectives.

Clearly, this is not "core" in the conventional meaning of the term. Entering students will not all have classes with precisely the same topical content and reading. What will be "core" about these classes is the constancy of assignments requiring daily or almost daily communications projects, an emphasis on active learning through student participation, exposure to faculty from different disciplines confronting students with differing knowledge systems and disagreements over ways of knowing. Students will be presented with "facts" but they will also be confronted with the reality that some "facts" are matters of contention. They will also be expected to themselves engage is some discovery of "facts."

We are presently planning for twenty sections of core. Each five member team would be responsible for five sections. To insure continuity during the course one faculty

member would serve as the primary instructor for each course. Team members would each for a two to three week period each quarter explore the perspectives and insights offered by their discipline to the specific topics under consideration. Among the outcomes of this organizational structure is increased student awareness of the distinctions and commonalties among disciplines and their contributions to the richness of the university experience.

Core classes will be kept relatively small (30-40 students) though this will vary depending upon how many admitted freshmen actually enroll at PSU. These classes will be broken down into three smaller groups for two hours per week. These small group sessions will be assisted by the student mentors who are part of the overall course team. By design the structure and organization of these courses is intended to create in each a learning community including the faculty members, the student mentors, and the students. In order to more carefully consider the several organizational issues for freshman core we developed the following preliminary class schedule.

Possible Schedule for Freshman Core

Class Times	Small Group Times
Teams I and II	
9:00 MWF	10:00 MW 11:00 MW 9:00 TTh
10:00 MWF	11:00 MW 12:00 MW 12:00 TTh
11:00 MWF	12:00 MW 1:00 MW 2:00 MW
12:00 MWF	1:00 MW 2:00 MW 12:00 TTh
1:00 MWF	2:00 MW 3:00 MW 12:00 TTh
Team III	
10:00 MWF	11:00 MW 12:00 MW 9:00 TTh
11:00 MWF	12:00 MW 1:00 MW 12:00 TTh

Class Times	Small Group Times
Team III	
1:00 MWF	2:00 MW 3:00 MW 12:00 TTh
2:00 MWF	3:00 MW 9:00 TTh 12:00 TTh
6:30 M	6:30 W
Team IV	
9:00 TTh	10:30 TTh 1:30 TTh 9:00 MW
10:30 TTh	12:00 TTh 1:30 TTh 3:00 TTh
12:00 TTh	1:30 TTh 3:00 TTh 12:00 MW
1:30 TTh	3:00 TTh 12:00 MW 1:00 MW
6:30 T	6:30 Th

Core Course Content

While structure and organization are essential, it is content and delivery which will ultimately determine whether the goals for freshman core are achieved. After some considerable discussion we concluded that a thematic approach was simply the best basis upon which to build academically rigorous courses which are sufficiently interesting to engage students and have the depth necessary to contribute to their academic development.

The foundation of these courses will be a core of knowledge and academic abilities. Students will be confronted with "facts," concepts, and theories related to the course topic as presented from the perspectives of several disciplines. Each class session will include an assignment which asks them to engage in one of the modes of communication, asks them to gather information, and/or challenges them to consider a problem from a different perspective. Among the guiding principles for these courses is that students will have frequent assignments and immediate feedback. The research by Light (1990: 31-33) has shown that this approach is extremely important and positively contributes to student learning.

By the end of the year long courses students will be expected to know how to frame questions, gather information, engage in analysis, and communicate conclusions applying written, numeric, and graphic forms of communication. That is, students will be expected to use the library to gather information from original sources, to have the sophistication to integrate different types of information as they attempt to analyze a problem, and to present that analysis in an appropriate form which demonstrates their capacity to employ written, numeric, and graphic means to communicate their work. Most often this will take the form of a research report of moderate length to be completed during the Spring quarter.

The result will be that in addition to learning a great deal about the topic under consideration, students will have spent the year gradually becoming more sophisticated in their ability to learn through constant, almost daily assignments structured to develop different skills and abilities. Additionally, they will have been exposed in some depth to several different disciplines; their ways of framing questions, gathering information, and standards for making knowledge claims. Students will be better prepared to successfully meet the expectations of upper division work in their majors than is often the case at present.

The First Theme: Discovery

As the committee worked this summer to more completely work through our recommendations we decided to adopt "Discovery" as the organizing theme for the first year of freshman core. Two short papers have been written each exploring the range of meanings for the concept and how those would apply to course development. We plan to continue our "seminar" during this coming year as we read and discuss material from each others' disciplines. Each of us has benefited greatly from the discussion to date as we continue to learn from each other.

Two groups of faculty have begun to develop model courses within this general theme. Neither effort is as yet fully developed but both hold the promise of offering precisely the kind of learning experiences envisioned for entering freshmen. We present a brief description of each to illustrate what is intended for freshman core courses.

"Discovering Metropolitan Portland" is the tentative topic for one of the courses. This full-year course of study proposes to direct student efforts toward discovery of the evolution of the physical and human landscapes and toward consideration of processes of change and the future. Throughout the course attention would be given to models offered by different disciplines to describe current conditions and predict processes of change as a means for understanding current and future conditions and problems.

In addition to being presented with a range of facts about the metropolitan area, students would be asked to engage in data collection of various types (e.g. physical measurements of the environment, demographic statistics, mapping neighborhoods, human surveys) and be expected to present those data in appropriate forms as they analyze different problems. Throughout this course students would be expected to work with facts in the context of descriptive and process models that assist in organizing and analyzing the world around them. In addition to enhancing their academic abilities, students would gain substantial insight into the relationships between physical and human characteristics as these interact to shape this metropolitan community.

The second model under development proposes to explore discovery through a focus on the social, cultural, and historical context of Albert Einstein's theories of relativity. Tentatively titled "Shifting Realities: Albert Einstein's Relativity," this year-long course would begin with a consideration of the social and intellectual climate of Europe at the beginning of the twentieth century. The context within which Einstein learned and grew to maturity included considerable intellectual ferment as scientists and artists worked and contributed toward significant changes in the definitions of objectivity, perception, space, and time. Students, in the winter quarter, would examine the theory of relativity and the consequences of its publication on the study of physics and more

broadly. Why was it that a theory of physics so strongly captured public imagination making Einstein a world renowned hero? To what extent is discovery contextually constructed? These issues would carry the course into a consideration of current societal and cultural contexts of scientific discovery.

Throughout this course students would be asked to research and write several short essays exploring the historical, cultural, and scientific issues raised. They would also be expected to explore mathematics as a means of communicating ideas. Some data collection, analysis, and presentation would be required throughout the course.

These model courses clearly offer students two very different topical maps to discovery but in many ways they share similar concerns and will offer students many similar experiences. Written and other forms of communication, using mathematics as a means of learning and expression, considering topics through several disciplinary lenses, collecting data and reporting analytic results are experiences that run throughout both courses. Both offer students interesting, even exciting opportunities, engaging them in a variety of learning experiences. At the end the three quarters we expect students to have made considerable progress in their journey toward becoming life long learners.

The Library and Freshman Core

Both of the courses under development envision students being involved in a number of information gathering activities, often from primary sources. This will be the case for every freshman core course. This means that by design as well as necessity freshman core will include access and retrieval of information from the PSU library as a significant part of the curriculum.

At present, many of our students do not confront the need to make use of the library until they begin the upper division portion of their course of study. Then, they urgently need to avail themselves of the many resources available but typically must do so without even a minimal introduction to the library, understanding of how information is organized, or awareness of the most appropriate means to access information. Rather than being a component of student learning throughout their education, the importance and role of library resources do not emerge until late in their education and then students often have incomplete knowledge as to how to take full advantage of those resources.

Beginning with the freshman core, students will learn how to access and retrieve information from the library in a manner that is integrated with their coursework. Core faculty will work with library faculty to incorporate those goals within the curriculum. We expect the goals to be based upon those articulated by the Association of College and Research Libraries' "Model Statement of Objectives for Academic Bibliographic

Instruction" (ACRL Bibliographic Instruction Section, 1991). This extensive program of objectives and competencies focuses upon student's being able gather information which is seen as four separate but interactive processes:

1. Identifying how information is created and communicated.
2. Understanding how information is organized into recorded and unrecorded sources.
3. Being able to select information using a number of access points and sources.
4. Being able to actually retrieve an item from a collection.

The goals for this part of the curriculum include much more than simply discovering the on-line catalog or knowing which floors house material from which disciplines. Students should gain an appreciation for the information structures, understand the range of ways to begin identifying particular sets of information, as well as the basis for distinguishing among different types of information. By the end of the freshman core students will be expected to be able to use efficiently electronic modes of searching including on-line options and electronic databases, demonstrate confidence in the use of indexes and abstracts as access points by identifying and retrieving articles from journals and periodicals, be able to identify sources from citations and follow through the search to physical retrieval of that item (Wright, 1991). This list of objectives is certainly preliminary and will need to be carefully developed with the assistance of library faculty but the intent should be clear. By the end of their first year at Portland State University our students will be able to use the library with confidence and view access to that information as integral to their academic experience at PSU. The ability to access and use information well and wisely is essential to facilitating lifelong learning.

Evaluation

Freshman core classes poses a number of challenges for the evaluation of student performance. Frequent communication assignments, data collection activities, and class presentations are among the activities which will be expected of students. The traditional pattern of a mid-term and final exams perhaps supplemented by a paper or essay will not be adequate to meet the learning goals of these courses, allow for the identification of student problems, or offer the opportunity for a more complete examination of student development.

An approach which offers the promise of using evaluation as part of learning and allowing for a more comprehensive review of student progress is that of portfolio review. Individual assignments will be evaluated and commented upon almost immediately.

During the quarter students will be expected to build a portfolio of the work completed and will present that to the faculty team at the end of each term. The faculty in consultation with the student mentors will evaluate each student's performance on the basis of total work completed and evidence of learning progress. Given the nature of these courses, portfolio evaluation offers the best opportunity for a student assessment program which effectively contributes to student learning.

The Core Faculty

Our current plans call for a twenty member freshman core faculty drawn from departments across this University each devoting two-thirds of their teaching to the core program. Participants would retain their departmental affiliation. We do not envision the development of a permanent core faculty. Rather, some portion would leave to return full time to their departments at the end of each year to be replaced by new faculty participants. In this way the program will retain some continuity from year to year but will also benefit from the expertise and insights of the new members.

Faculty can indicate their interest in participating in the program through self nomination or nominations by their departments. The general education faculty advisory committee will be charged with selecting the participants for the next academic year. The determination of core faculty membership should be accomplished during the Fall quarter for the next academic year.

During the Winter and Spring quarters these faculty will be expected begin to learn to work together by participating in course development workshops and the ongoing core faculty seminar. This would continue through the summer which leads to our next recommendation. ***We recommend that incoming core faculty receive a summer stipend to support course preparation.*** Faculty will be asked to make at least a two year commitment to the program. No person will serve on core faculty for more than three years.

While we expect core faculty to be drawn from across the university, we do plan for some areas of expertise to be consistently present. Core faculty should include persons with expertise in writing and its instruction, mathematics, and graphics. Because new faculty will be brought into the program each year we expect that over time all members of the PSU faculty who wish to participate will have the opportunity to do so.

Student Mentors

Our current organization of the core program calls for twenty student mentors who would be responsible for assisting students work on their assignments in small group sections. Students wishing to participate in the program as mentors should have upper

division standing and would be nominated by their departments or self-nominated by early in the Winter quarter. Students nominated should have demonstrated exceptional abilities in at least one of the communication areas, the curiosity and the capacity to pursue research questions, and the ability to work with people from a variety of backgrounds and contexts. Core faculty would review the applications and select the mentors prior to the end of Winter quarter. During the Spring these students would be expected to work closely with their faculty team in course preparation and would be expected to attend workshops to help prepare them to meet the expectations of faculty and students. We anticipate that these students will become integral members of the team. ***We recommend that student mentors be compensated by receiving tuition remission for that academic year in the same manner as is done for graduate assistants.***

In addition, student mentors will learn a great deal. Astin has shown that being a student tutor contributes in significant ways to student learning. Thinking through, researching, and preparing a year long course and then being part of the delivery of that experience should greatly contribute to the university experience of these students.

Expected Outcomes

In addition to consideration of course topics in some considerable depth, we expect that the outcomes of year-long freshman core will include measurable growth in the areas of communication, framing questions, information collection, ability to use numeric information for analysis and communication, and facility in accessing and retrieving information from the library. Students should be able design and complete a modest research project and use written, numeric, and graphic means to communicate the results.

Additional outcomes should include enhanced facility with scientific thinking, mathematics, and writing. At present, courses which emphasize these abilities tend to be avoided by students who often feel a lack of competence in those areas and who are therefore quite apprehensive about their prospects in such courses. We expect that students will feel empowered by their contact with these and other competencies in the core program and that they would as a result be more likely to pursue their curiosity about those areas through additional coursework.

We expect that the core experience will result in students making substantial progress toward the overall goal of becoming lifelong learners. This will significantly enhance the abilities of students to pursue their chosen majors.

The pedagogy of the core program will include extensive student-student and student-faculty interactions. Additionally, students will be encouraged to stay in the same section of core throughout the year. Ideally, each section and its mentored discussion groups will form learning communities. The expected result is that students will build a sense of community and involvement with each other as well as with this University and its faculty. Students will know a member of the faculty with whom they can talk, they will have built some strong bonds with other students during the sustained year-long experience, and they will have had experiences working with other students from differing backgrounds and contexts. The sense of isolation which results from many of our students working, commuting, having family responsibilities, being first generation students, and attending a large university will begin to have been deliberately addressed by the features of this part of the general education program. As the research of Astin has shown, each of these contributes to increased student satisfaction, enhanced learning outcomes, and improved retention. While it is of course true that three five credit courses cannot in and of themselves fully address the issues of retention, learning, and satisfaction, freshman core has been consciously developed to respond to those issues and it will be a significant component of this University's efforts to respond on a more comprehensive basis.

Sophomore, Junior, and Senior Courses

The program for sophomore level students would continue to include small group, mentored sessions to assist students to improve upon the foundation provided by freshman core. Each of the three, four credit courses will also continue to include frequent communications assignments with immediate evaluation and feedback. We expect the objectives and content these courses will begin a more direct focus upon topics and strategies related to the Human Experience and Ethical Issues and Social Responsibility general education goals.

Our initial planning for these courses is that they would be overviews of or introductions to junior and senior level course sequences or clusters. Students would choose three such courses and then move on into one of the clusters. Again, students will have choices but these will be structured and integrated sets of courses.

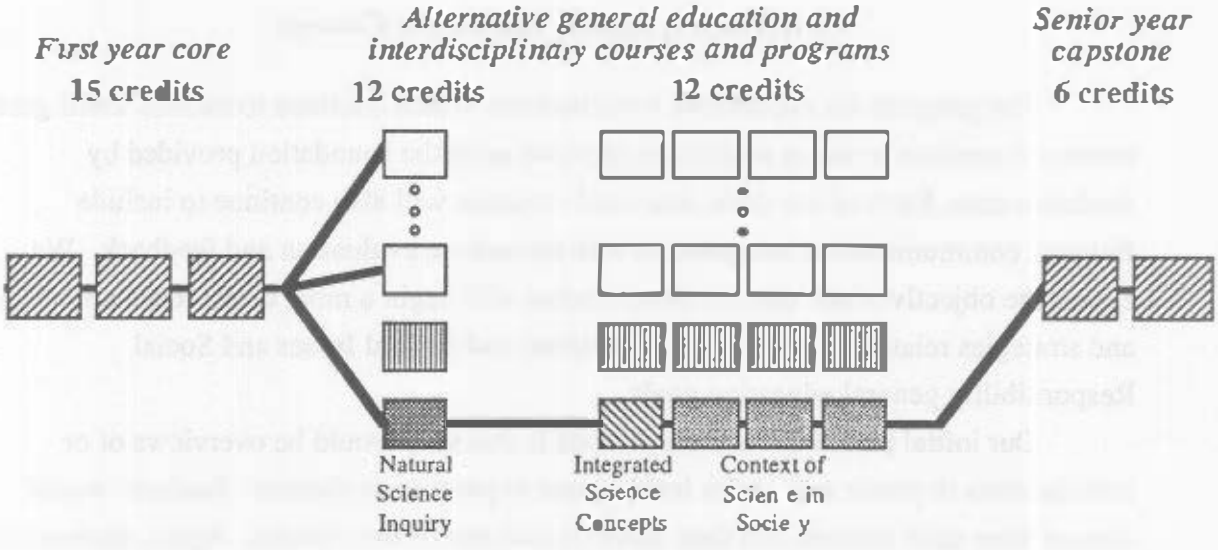
The four course, twelve credit junior and senior level requirement will be designed to offer students choices among sequences or clusters of courses. Faculty may propose individual courses but these will be joined with others to form an integrated

educational experience. The research by Ratcliff and Jones discussed earlier strongly supports this curricular structure.

Faculty offering courses grouped into a cluster or sequence will be expected to work together as the content and objectives of these courses evolve and to coordinate such matters as sequencing and scheduling. The faculty development program will serve importantly to assist this necessary coordination. This will mean that faculty offering courses in the program will engage each other in discourse across departments and disciplines as they work toward developing their individual courses in relation to the other offerings within the cluster. The commonalties and conflicts among differing ways of knowing will become part of the course structure rather than a matter which is left to students to divine.

The expectation of frequent and significant communications assignments will continue and the pedagogy should include active learning on the part of students. The subject matter will include expanded consideration of the strategies related to the goals of Human Experience as well as Ethical Issues and Social Responsibility while continuing to build on the foundations in the areas of Inquiry and Communication. Students will be expected to demonstrate increasingly sophisticated research and communication abilities.

The following schematic illustrates the proposed general education model and the interrelationships among the different components of the recommended program



of study, and shows a hypothetical student's passage through her general education coursework. Only four of a much larger collection of alternative interdisciplinary and general education programs are shown. This schematic was developed with specific reference to the Science in the Liberal Arts Program. This interdisciplinary program has

been developed to offer the opportunity for our students to enhance their science literacy and will begin to be offered this Fall. It is an excellent example of one kind of course sequence which could be developed for the recommended program. The courses identified at the bottom of the model refer to Science in the Liberal Arts courses.

Senior Capstone

The discussion of the six credit senior capstone experience in our previous report elicited a number of responses ranging from "irresistible, worth trying" to "good idea, but how will we do this," to "this terrifies me." In general, the responses were quite favorable to the idea that this metropolitan area could serve as a learning laboratory for our students to apply the expertise learned in their majors. The concern expressed both softly and stridently was whether it would be feasible. In this discussion of the capstone we seek to address at least some of those concerns and suggest ways in which the capstone could be structured and supported.

The senior capstone has three main objectives:

1. To provide an opportunity for students to apply the expertise learned in the major to real issues and problems.

2. To give students experience working in a team context necessitating collaboration with persons from different fields of specialization.

3. To provide the opportunity for students to become actively involved in this community.

A capstone requirement is typically put in place to provide students with a learning experience which culminates their university education. Certainly that is part of the intention with this capstone experience, but we are also an urban university part of whose mission is to interact with the community and to provide opportunities for the community to access the resources of the University. This version of the capstone is more broadly conceived to be responsive to the urban context and resources of Portland State University.

Students will take the capstone near the end of their educations at Portland State University. By this point they will have nearly completed their major requirements and will have acquired some degree of expertise and competency. The capstone will provide an opportunity for students to begin the transition from university to profession or further education by experiencing and testing their expertise in a structured environment.

The team project element of the capstone is a direct response to observations from persons in the private and public sectors. They have indicated with some clarity that our

students are well trained for a specific area of expertise. The major weakness is that they have had little if any experience working in a group context to collectively address problems and goals. Even more to the point is the observation that students trained within specialized fields need to be able to communicate and work with persons trained in other specialized fields. Those who can successfully do so are the ones who are more likely to be retained and advanced within the organization. The capstone asks our students to do more than read and take notes about team approaches; it asks them to actually do it.

The community involvement component of this part of the program will place Portland State at the forefront of the service learning movement in American higher education. An increasing number of colleges and universities either require or make available opportunities for community service. The Campus Compact, a national organization formed by a group of college and university presidents to promote community service as an integral part of undergraduate education, has grown to include some 300 presidents and their campuses (see Stanton, 1990). In 1990 Congress incorporated service learning into the National and Community Service Act and in 1992 over five million dollars was distributed in 58 grants to colleges and universities. All of this is by way of establishing that the general education capstone is not entirely new or out of step with national trends. Rather, service learning has been found to have significant benefits for student learning and is now a part of the curriculum at a number of campuses.

The types of projects included within the capstone will encompass a wide range of activities. Some projects may involve library research leading to an analytic paper while others may involve data collection or observations in the field. What we expect is that the projects will be finite rather than open-ended and will be significantly directed toward the capstone objectives.

Two related issues seem to comprise the core of the concerns raised about this recommendation: how many students and how many projects. The number of students who would be seeking to complete this part of the general education program during each academic year is most likely somewhat over two thousand. Since 1988-89 Portland State has awarded about 1900 Bachelor's degrees per year. For those same years the number of students classified as seniors has been about 3100. That this difference between number of undergraduate degrees awarded and the number of seniors has been consistent raises a number of questions. For purposes of the capstone, these figures suggest that the annual number of students seeking to participate in these projects would be somewhere between the two and probably closer to the number of degrees awarded.

This does not mean, as some have inferred, that more than 2000 projects will be needed for each year. We estimate that number of projects needed for each year will be approximately 200 to 250. First, these are to be team not individual projects. While the size of the team will vary depending upon the nature of the project, we have built our estimates on the basis of 10-member teams. Second, some majors and programs currently require a senior level experience which is similar in intent and design to the capstone. At the previous set of open meetings we were asked if those students would also need to complete the general education capstone. ***Our recommendation is that students in those majors and programs which currently have or subsequently develop senior level experiences similar in intent and design to the capstone not be required to also complete the capstone requirement.*** For the Working Group, it is the intention and the goals which are primary, not which institutional component offers the experience. Those programs and majors will be asked to meet with the general education advisory committee to explore how to implement this recommendation. The result is that the initial number of students who will be required to complete the general education capstone will be reduced.

We envision that several of the projects will be ongoing over a number of years and that the number of new projects needed each year will be fewer than the 200 to 250 total projects needed. For example, several organizations are right now in need of annual data collection and summary but do not have the resources to accomplish this. The relationship between the University and organizations with this need would be to establish an ongoing mutual commitment to participate in that project.

The Portland metropolitan area contains some 55,000 business, over 60 governments with their attendant agencies and bureaus, and uncounted non-profit groups, neighborhood and community groups, and private associations. We begin with the assumption that more than 200 projects per year can be found in this metropolitan area. Further, we expect that once the capstone is in place with the resultant expansion of institutionalized relationships between the University and community there will be more projects submitted from the community than we will be able to accommodate each year.

Equally important will be institutional support for the capstone. Projects will need to be identified. The parameters and expectations for both the community organization and the University must be negotiated and understood, with that understanding communicated to students. Student teams will need assistance, logistical support, and advice. The performance of both the community organization and the student team will need to be monitored. It is quite clear that faculty could not be expected to carry this additional work load without significant support.

The Working Group has discovered that the foundations for that support are already being constructed by faculty acting individually and in groups, as well as emerging in the activities of some programs and institutes. Individual faculty and programs have for some time been negotiating with public and private sector organizations to provide learning experiences for their students.

More systematic, University-wide efforts have been begun by the Institute of Portland Metropolitan Studies. This institute is designed to link University resources with metropolitan issues and is governed by a 21 person board composed entirely of community members from the five county metropolitan area. Among the activities envisioned is Project Match which will seek to connect community organizations with the University. Project Match is intended to identify community issues and problems which are consistent with the mission and the resources of the University, to make organizations aware of the resources of the University, and to "broker" the connections between the University and the community. These initiatives by the Institute are an important component of the necessary foundation of ongoing relationships between community organizations and the University.

Another organization which is already in place and functioning to establish sustained connections with the metropolitan community is the Portland Educational Network (PEN). The activities of PEN have primarily focused upon creating a consortium of regional educational institutions for the purpose of designing educational experiences for students at all education levels. These already established relationships should result in a number of opportunities for capstone projects.

The efforts of individual faculty and programs, the Institute of Portland Metropolitan Studies, and the Portland Educational Network are illustrative of the range of connections between the community and the University which are already in place. Planning and preparation for the capstone will take place within an institutional context wherein many contacts and relationships have already been established. What will be needed during the four years prior to the phasing in of the capstone is the expansion of that foundation.

At present one grant proposal has already been submitted to the Fund for the Improvement of Postsecondary Education (FIPSE) which requests support for the creation of a Metropolitan Collaborative. The Collaborative would be a vehicle for identifying, supporting, and developing community-based projects. This grant proposal specifically builds upon our recommendations for the capstone and would be a significant step toward providing the necessary support for faculty and students.

Another group of faculty have been awarded a grant from the PSU Faculty Development Program for the purposes of facilitating service learning at Portland State University and positioning the University to receive external funding to support an extensive service learning program. More specifically the intention is to apply for funds from the National and Community Service Act. *It may also be the case that under the terms of this act students participating in capstone projects will be eligible for tuition assistance.*

During this coming academic year, faculty development in the area of service learning will be facilitated by several workshops and seminars. By the end of 1993, the intention is to seek external funding to support a service learning center. This center would not only work to expand University-community linkages but would also identify projects and provide support for monitoring the projects and assisting student teams.

An additional source of support for the capstone could result from an examination of and rethinking how this University applies resources to the activities of adjunct faculty. It is our understanding that at present some forty per cent of our courses are taught by adjunct faculty. *We recommend that some portion of the resources currently spent on adjunct faculty for the purposes of classroom instruction be reallocated to support the capstone.* These resources would support practitioners who have the expertise and experience to support different capstone projects. Student teams would be able to work with and learn from persons who have been confronting project issues on a professional basis. This approach would, we believe, significantly contribute to the goals for capstone and would be a productive use of adjunct faculty.

The intent of each of these efforts is to have in place the structures and necessary support for the capstone by the Fall of 1997 when the capstone is phased in. Faculty will not be expected to bear the entire workload. Rather we will build on the foundation already in place at PSU and extend those resources toward constructing what will be an important ingredient of our students' educations.

OTHER ISSUES

At the open faculty meetings and in the written comments a number of additional issues were raised many of which concern the consequences of the program as well as implementation concerns. We begin with brief discussions and recommendations responding to some of the particular concerns which have been expressed by faculty and students. The discussion then turns to three larger issues: assessment, productivity, and cost. We understand that at this stage of program development we do not have full

responses to each of those issues. Further, additional concerns will undoubtedly emerge should our recommendations be adopted and we move toward full implementation.

Implementation Task Force

As we worked this summer on more completely developing our recommendations we came to understand that implementation of this general education program will touch on many aspects of this University and its current practices. ***We recommend that an implementation task force be established.*** This task force would be established jointly by the Office of Academic Affairs and the Faculty Senate. It would most likely include members from the Working Group, other faculty, the Office of Student Affairs, the Library, Office of Academic Affairs, Scheduling, and other persons whose responsibilities and area of expertise would affect the implementation of the program.

Summer Program for Freshman Core

We recommend that the three course freshman core program be offered during the extended summer session. Two concerns raised as a result of our previous report prompt this recommendation

First, some professional and pre-professional programs have freshman course requirements that amount to as many as twelve credits per term (e.g. Music). A great deal is expected of those students and the concern was raised that the five credit freshman core courses in addition to those requirements may impose too heavy a load. These students would greatly benefit by being able to complete freshman core during the summer.

Second, for a variety of reasons some of our students do not take courses during all three quarters of the academic year. Having this part of the general education program available in its entirety during the summer should assist those students to complete the three term course in the manner intended.

Additional Discussion Group

We recommend that an additional one credit mentored discussion group be scheduled and made available to students enrolled in freshman core.

This recommendation is prompted by two concerns. First, several students responding to our previous report raised the issue of the fit between the five credit core courses and the twelve credit requirement to be eligible for financial aid. For some students, particularly single mothers and those with heavy outside work commitments, having to carry three courses in addition to freshman core might be too heavy an academic load. Yet, this is what they would have to do in order to be eligible for

financial aid. While the financial aid requirements should be visited by the implementation team, change would be unlikely to occur in time for the freshmen entering in the Fall of 1994, if it occurs at all. The additional discussion section carrying one credit would mean that these students would with two additional courses have access to financial aid.

Some responses raised the issue of the availability of additional help for those students who might need additional work to meet the expectations of the core classes. The additional mentored small group sessions would be available to those students and could in significant ways address this concern. We fully expect that these additional groups will be included in the scheduling of freshman core.

Assessment

At present Portland State University does not have a systematic program for assessing student development. ***We recommend a group of faculty be convened to work toward the development and implementation of an assessment program for Portland State University.***

Assessment of student development is increasingly a part of the landscape of American higher education. The public has come to expect that colleges and universities will be accountable for the outcomes of the educational programs they provide and states have moved to require systematic programs of student assessment for all public universities and colleges. Washington state now has such a requirement and work toward implementation is in progress. New Jersey has developed the New Jersey General Intellectual Skills Assessment which was developed in consultation with the Educational Testing Service. This is now required of all public universities and colleges in New Jersey and was administered for the first time in 1990 (Kloss, 1992). We should not be too surprised if Oregon also moves to join this trend

Assessment engenders substantial and significant debates. What should be assessed? How should one measure student development and/or learning? How will the results be used? These questions frequently lead to the more fundamental concern with what should students know (Astin, 1991). For the general education portion of the Portland State University Curriculum those objectives are set forth in the statement of purpose and the goals.

At this point we envision assessment occurring at different levels. The first is assessment of student performance in each class, the purpose of which would be to assist learners. Earlier we argued for portfolio based assessment of student learning in freshman core. The sophomore and upper division levels would presumably employ

different means. The capstone poses a very different set of problems which remain to be resolved as the planning for that portion of the program evolves.

The second level is the assessment of the contribution of each course toward the general education goals. Each course will be evaluated every time it is offered. Student evaluation will be one part of that assessment. We also anticipate that a review and analysis of gains in student performance will become integral to the assessment. The purpose will be to offer suggestions for changes in content and/or pedagogy where appropriate. Elsewhere, assessment has generated serious discussion among faculty about what should go on in the classroom (Kloss, 1992: 188). We fully expect that discussion to be an ongoing characteristic of the core faculty and those faculty who are offering courses for the other components of the program.

The third level is the overall assessment of student learning outcomes at the conclusion of their academic programs. Several instruments and approaches are presently available and several have been the subject of extensive research (Astin, 1991; Banta, 1991). However, we cannot say at this point which, if any, of these would be appropriate for Portland State University. For assessing the general education program the criteria will need to be based upon the purpose and goals. It will be important even essential to have some information base upon which to build the future evolution of the program. Additionally, it will be a means by which this University begins to address the issues of accountability and productivity.

Productivity

Among the concerns raised about the recommended program are its consequences for the "productivity" problem. The classes in freshman core will be comparatively small and will be team taught. The argument is that these faculty will be less productive than their colleagues in terms of the numbers of students filling seats in classes. While that in itself may not be entirely correct and certainly not always correct, it represents a miscasting of the problem. The focus on the generation of numbers of students in classes as defining "productivity" indicates rather strongly that we in the academy have acquiesced to this particular meaning of the term. To a considerable extent we appear to have lost the debate because we did not enter the discussion in a manner which was responsive to the underlying concerns.

The criticisms of higher education in the 1970's through more recent attacks have focused upon the quality of undergraduate education. The premise for many of these assaults on the academy is that faculty do not devote sufficient attention to undergraduate education with the result that our undergraduates are less well educated than the public

expects. In general, productivity is an issue which has emerged from these concerns and has merged with increasing demands for accountability on the part of publicly supported higher education. The issue is undergraduate learning, not numbers of students in seats.

In Oregon the state legislature, the state Board of Higher Education, and the Chancellor have each remonstrated colleges and universities to place increased emphasis improving undergraduate education. Curricular reform initiatives for the improvement of undergraduate education are now expected. All faculty are to become more involved with the teaching of undergraduates.

The recommended program offers an immediate and important increase in productivity understood as meaning devotion of faculty resources to undergraduate education. Faculty from all units of the University even those whose programs are either primarily or exclusively at the graduate level will be participating in the undergraduate general education program.

The second way in which the recommended program responds to the productivity issue and its underlying theme of accountability is through the development of courses and learning experiences which are clearly and purposefully related to the instilling in our students the abilities and the propensity to engage in life long learning. The program offers this University for the first time an articulated purpose which identifies the expected outcomes of education at Portland State University. And, it is responsive to the concerns of undergraduate students and the community.

Finally, the assessment of student progress toward the goals articulated offers this University an opportunity to reframe the debate over productivity. We should be clear that adopting the recommended program means that this University is establishing itself as accountable for achieving those objectives. Productivity will then to a significant degree be based upon assessment of student development and learning outcomes in relation to criteria derived from the recommended purpose, goals, and strategies. The extent to which our undergraduates demonstrate learning will become part of this University's response to the demands for accountability and productivity. The result will be that this term which has caused so much dismay in the academy, will come to be understood in a way that captures the meaning of the concept in a manner that is more responsive to public concerns than a simplistic inventory of numbers of students, classes, and faculty.

Cost

Not surprisingly some considerable degree of concern has been expressed about the cost of the recommended program. As far as we are aware there has not as yet been

an analysis of the comparative costs of delivering general education through the current distribution requirements and those for the recommended program.

As the Working Group has considered this issue we have concluded that a good estimate is that the cost of delivering general education under the current distribution model and the cost of the recommended program will be roughly the same. The current requirements necessitate that enough student seats in enough courses be funded so all students can enroll in the number of courses needed to complete at least 63 credits. The recommended program will necessitate funding enough seats in courses totaling 45 credits. The six course, 18 credit reduction represents a significant savings. However, parts of the recommended program, particularly freshman core and the capstone, will be more expensive to deliver than is the case for large lecture classes. To this more expensive delivery of learning experiences would be added the costs of the student mentors, faculty development, and the single administrator. After reviewing this rough comparison of the costs for both approaches to general education we concluded that it could not be argued that the recommended program would be significantly more expensive, nor could it be argued that it would lead to significant cost savings.

The greater impact of the program will be the reallocation of faculty resources. Twenty faculty teaching 2/3 time in freshman core, the number faculty teaching one or two courses a year in the sophomore and upper division courses, and those faculty who are involved with the capstone will be teaching fewer courses in their home departments. However, since these persons will be drawn from across the campus and because their participation in the program will not be on a permanent basis, the impacts on departmental resources should be neither substantial nor long term.

SUMMARY

The General Education Working Group has worked to develop a set of recommendations for a general education program which draws from current research, is responsive to the context and aspirations of our students, and which is guided by a clear purpose which underlies its goals and strategies. We are convinced that this program addresses several institutional problems, not the least of which is retention. It was consciously and deliberately developed to address the characteristics of our students and to emphasize approaches which have been found to be positively related to student learning and student satisfaction.

This is not to say that every student will benefit similarly from the program. Our students come to PSU with a wide range of abilities and diversity of contexts. Not all

will succeed. However, this program will offer to all an improved opportunity to accomplish their educational objectives.

When this general education program is combined with a systematic assessment effort, Portland State University will be able to respond more meaningfully to the challenges posed community demands for accountability and productivity. Assessment of student learning in relation to articulated and understood criteria will contribute to our ability to reframe the understanding of productivity so that includes learning outcomes.

We believe that this program and our several recommendations will not only lead to significant enhancements in our students' educations but will also speak to many of the goals of our faculty. Faculty place a high value on educational excellence and some become frustrated and alienated when they perceive little support or reward for their individual efforts and little prospect of comprehensive institutional efforts to bring about positive change. This recommended program is clearly committed to educational excellence and offers faculty across this campus the opportunity to contribute and will provide the support to do so. Further, if the recommended addition to the University guidelines for promotion and tenure is adopted, it will also be the case that participation in this program will become part of the reward system of the institution.

If the evidence from other universities is replicated at Portland State University, the visibility and standing of our University in the community will be improved. The implementation of this program will contribute to the overall advancement of our University and contribute to our collective goal of becoming an institution widely known as a place where students receive superior educations from talented scholars who are committed to assisting students make the often difficult journey to becoming lifelong learners. Portland State University will have made significant strides toward becoming an institution of choice in the state of Oregon.

SOURCES

ACRL Bibliographic Instruction Section. (1991) "Model Statement of Objectives for Academic Bibliographic Instruction." in Carolyn Dusenbury, Monica Fusich, Kathleen Kenny, and Beth Woodard, eds. *An Owner's Guide to the New Model Statement of Objectives for Academic Bibliographic Instruction.* Chicago: Association of College and Research Libraries, 5-15.

Astin, Alexander W. (1991) *Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education.* New York: Macmillan.

Astin, Alexander W. (1992) "What Really Matters in General Education: Provocative Findings from a National Study of Student Outcomes." *Perspectives.* 22, 1 (Fall, 1992) 23-46.

Astin, Alexander W. (1993) *What Matters in College: Four Critical years Revisited.* San Francisco: Jossey-Bass.

Banta, Trudy W. (1991) "Contemporary Approaches to Assessing Student Achievement of General Education Outcomes." *The Journal of General Education.* 40, 203-223.

Boyer, Ernest L. (1987) *College: the Undergraduate Experience in America.* New York: Harper & Row.

Dobson, Margaret J. (1985) "Memo to All Faculty." (February 4, 1985).

Gabelnick, Faith, Joan MacGregor, Roberta S. Matthews, and Barbara Leigh Smith. (1992) *Perspectives.* 22, 1 (Fall) 104-121.

Gaff, Jerry G. and Michael L. Davis. (1981) "Student Views of General Education." *Liberal Education.* (Summer), 112-123.

Gaff, Jerry G.. (1989) "General Education at Decade's End: The Need for a Second Wave of Reform." *Change.* 21(4) 10-19.

Gaff, Jerry G. (1991) *New Life for the College Curriculum: Assessing Achievements and Furthering Progress in the Reform of General Education.* San Francisco: Jossey-Bass.

Gaff, Jerry G. (1992) "The Rhetoric and Reality of General Education Reform: An Overview." *Perspectives.* 22, 1 (Fall) , 47-57.

Graff, Gerald. (1992) *Beyond the Culture Wars: How Teaching the Conflicts Can Revitalize American Education.* New York: W.W. Norton.

Hurtado, Sylvia, Alexander W. Astin, and Eric L. Dey. (1991) "Varieties of General Education Programs: An Empirically Based Taxonomy." *Journal of General Education,* 40, 133-162.

Johnston, Joseph S., Jr., Robert C. Reardon, Gary L. Kramer, Janet G Lenz, Alexandra S. Maduros, and James P. Sampson, Jr. (1991) "The Demand side of General

Education: Attending to Student Attitudes and Understandings." *The Journal of General Education*, 40, 180-200.

Jones, Elizabeth A. (1992) "Is a Core Curriculum Best for Everybody?" in James L Ratcliff, ed., *Assessment and Curriculum Reform.*. San Francisco: Jossey-Bass, 37-46.

Jones, Elizabeth A. and James L. Ratcliff. (1991) "Which General Education Curriculum is Better: Core Curriculum or the Distributional Requirement?" *The Journal of General Education*, 40, 69-101.

Katz, Joseph, et al. (1988) *A New Vitality in General Education: Planning, Teaching, and Supporting Effective Liberal Learning.* Washington, D. C.: American Association of Colleges.

Kiechel, Walter. (1993) "How We will Work in the Year 2000." *Fortune*, (May 17) 39-52.

Kloss, Robert J. (1992) " Can General Education Be Assessed? One State's Positive Answer." *The Journal of General Education*, 41, 177-189.

Light, Richard J. (1990) *The Harvard Assessment Seminars: First Report:* Cambridge, Mass.: Harvard University Graduate School of Education and Kennedy School of Government.

Light, Richard J. (1992) *The Harvard Assessment Seminars: Second Report.* Cambridge, Mass.: Harvard University Graduate School of Education and Kennedy School of Government.

Marsh, Peter, ed. (1988) *Contesting the Boundaries of Liberal and Professional Education: The Syracuse Experiment.* Syracuse, N. Y.: Syracuse University Press.

Portland State University. (1993) *Bulletin: General Catalog Issue.* 27, 4 (Summer, 1993).

Portland State University, Faculty Senate. *Proceedings.* (1979-1985).

Portland State University, Office of Institutional Research and Planning. (1992a) *Statistical Portrait*, Report # 92-3.

Portland State University, Office of Institutional Research and Planning. (1993a) *Entering Student Survey, Survey Responses-1992.*

Portland State University, Office of Institutional Research and Planning. (1993b) "Retention and Graduation Rate for SRA Study-Full Time Freshmen."

Ratcliff, James L (1992) "Reconceptualizing the College Curriculum." *Perspectives*, 22 (Fall), 122-137.

Rudolph, Frederick. (1977) *Curriculum: A History of the American Undergraduate Course of Study Since 1636.* San Francisco: Jossey-Bass.

Stanton, Timothy K. (1990) *Integrating Public Service with Academic Study: The Faculty Role,* Providence, R.I.: The Project for Public and Community Service, Brown University.

Terenzini, Patrick T. (1993) "The Transition to College: Diverse Students, Diverse Stories." Paper presented to the Annual Meeting of the Association for Institutional Research. Chicago: May, 1993.

Twombly, Susan B. (1992) "Student Perspectives on General Education in a Research University: an Exploratory Study." *The Journal of General Education.* 41, 238-272.

Weingartner, Rudolph H. (1992) "General Education is Not Icing, But The Cake." *Perspectives* 22 (Fall) 9-22.

Wrench, David F. (1992) "Report to the Kinnick Committee."

Wrench, David F. (1993) "Report to the Kinnick Committee."

Wright, Carol. (1991) "Application of the Model Statement to a Basic Information Access Skills Program at Penn State University," in Carolyn Dusenbury, Monica Fusich, Kathleen Kenny, and Beth Woodard, eds. *An Owner's Guide to the New Model Statement of Objectives for Academic Bibliographic Instruction,* Chicago: Association of College and Research Libraries.

GENERAL EDUCATION WORKING GROUP

REVISIONS AND CLARIFICATIONS

PORTLAND STATE UNIVERSITY

OCTOBER 27, 1993

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The General Education Working Group has carefully reviewed and discussed the points raised during the September All-Campus Symposium and in subsequent discussions. In this report we offer responses to those concerns and questions where we are able. We do not include all of the points and supporting material discussed in our September report. Throughout this document we refer to that previous report and this report should be considered in conjunction with the research and discussion presented to the faculty this past September.

The Working Group was very appreciative of the general expression of support from symposium participants--faculty and students alike. There was wide-spread agreement on the need to change our current general education requirements and many expressed genuine excitement about the proposed program. In particular, several agreed that the proposed program would contribute toward the building of university community and would greatly assist our efforts to improve student retention. Attached to this report is a letter from Mary Kinnick, chair of the Committee on Undergraduate Retention, which comments on the relationship between the proposed program and the problem of student retention at Portland State University (Appendix A). This committee has been studying student retention patterns at PSU for the past two years and has identified factors related to the low rates of student retention at this University. Professor Kinnick concludes her discussion by stating that several features of the proposed program will "contribute significantly to increased retention and student success at PSU."

Also expressed at the symposium was the view that "we haven't defined our identity at PSU; this plan could help define us as an academic community." This sentiment characterized several of the comments from symposium participants. There seemed to have been substantial support for the view of the Working Group that adoption of the proposed general education program will significantly contribute toward our University becoming an institution of choice in the state of Oregon.

This is not to say that there were not significant criticisms, questions, and concerns raised at the symposium or subsequent to that remarkable event. There were, of course, several. Many pointed to the need for clarification of different parts of the proposal. Others focused upon implementation issues. One consistent theme was a concern about resources and cost. Another concern was the effect of the proposed program on majors and departments.

In this report we attempt to address several of those concerns, questions, and criticisms. We cannot respond to some, particularly those related to resources and cost. Responses to those concerns will of necessity have to be provided by others. The

Working Group agrees that these are important issues that must be addressed as part of the consideration of our proposal.

It should also be kept in mind that our proposals set forth a plan for a general education program which is research based, grounded on an articulated purpose with attendant goals and strategies, and adapted to the context of Portland State University. That plan is not fixed and unyielding. Rather, it is designed to be adapted in response to possibilities which might emerge or problems which may arise as the program evolves and matures. Since the plan was first submitted to the faculty last May we have adopted significant changes in a number of respects while retaining the basic structure and objectives. As a result of the issues raised at the symposium we have adopted a number of additional changes.

The revisions and clarifications include: some changes in the freshman level of the program; expanded discussion of the structure of the sophomore and upper-division levels, strengthened writing and communication components of the program, explored the question of process vs. content, more directly explained our intention to implement diversity across the general education curriculum, and discussed the correspondence between the proposed program and the impending K-12 reforms in Oregon. We also include a brief series of estimates on the numbers of courses and FTE which would be needed to support courses for the program should it become fully implemented. Finally, this report contains brief discussions of the possible effects of the proposed program on the major, and the role of the peer mentors.

One change which appears throughout this report is a change in the name of the faculty committee from "General Education Advisory Committee" to "General Education Committee." This change more accurately reflects the central role to be played by the faculty committee within the structure, oversight, and planning for the program. It is certainly intended to more than just an advisory body to the administrator of the program.

Three appendices are attached to the text of this report. Appendix A includes letters commenting on various parts of the proposal. Appendix B includes a comparison between the proposed program and the current requirements, the statement of purpose and the goals and strategies which will guide the program, and other documents referred to in this discussion. Appendix C includes documents which pertain to the K-12 reforms in the State of Oregon.

FRESHMEN INQUIRY

In the September report we described the freshman level courses for the program as "freshman core" developed by the faculty teams and organized around a common theme (pp. 41-49). Both the notion of an organizing theme which would change each year and the term "core" were pointed to by a number of the symposium participants and in subsequent discussions as creating some unnecessary confusion and possibly leading to some implementation problems.

The freshman courses we propose are not "core" in the traditional sense of this term. That is, entering freshmen will not be taking exactly the same courses with the same readings and same syllabus. Thus, including "core" in the labeling of the freshman courses misidentifies the content and purpose of these courses.

More concern was raised about the organization of freshman courses under a general theme which would change each year. Several respondents argued the need for more continuity over time in these courses than was suggested by the plan to change themes annually.

The Working Group discussed these reservations and came to agree with both sets of concerns. We have, therefore, decided to revise the proposal and drop the plan to have an overarching organizing theme. Instead of labeling the freshmen level courses a "freshmen core" we have decided to call them "freshmen inquiry." This name change removes the need for the organizing base provided by a theme such as "discovery" and more accurately captures the objectives for the freshman year of the program: learning about and engaging in inquiry.

WRITING-COMMUNICATION

Several have expressed concerns that because the proposed program ends the two course writing requirements (WR 121, WR 323) there will be a decreased emphasis on writing, particularly for students who transfer to Portland State University at the upper division level. From the beginning of our discussions, the Working Group has sought to develop a program which will substantially increase student writing over what is currently required and we strongly believe that our proposals work toward this objective.

In order to more fully respond to this concern we present a brief summary of the evolution of our thinking regarding writing and then more completely discuss how this will be incorporated into the proposed general education program.

Several members of the Working Group began with the perspective that instruction in writing means emphasis upon the mechanics of writing. Through our discussions we came to understand writing as integral to learning as well as to the communication of what has been learned. Similarly, several of us began with the perspective that numeracy meant the mechanics of manipulating numbers. Again, we came to understand numeracy as integral to learning and communication. A similar evolution took place in our understanding of visual and oral means of communication. As our consideration of these issues proceeded we developed the concept "communication," understood to encompass each of these different processes of learning and expression with writing as the core. As we stated in our September report:

> Writing, graphic, numeric, and oral modes of learning and expression will be taught and learned within course context rather than being isolated into two required courses which are often perceived as being separate from the subject matters being pursued by students. Writing and other forms of communication will become integrated into and part of the subject matter focused upon by different general education courses through all four years of the program (p. 36).

A similar approach based upon a broadly conceived understanding of the term "communication" has been adopted by Alverno College which has implemented a nationally recognized general education program. That program has been in place for some ten years and integrates communication across-the-curriculum with the premise that communication is an essential component of learning as well as expression. Should our proposal be adopted, the Working Group will explore the Alverno College program in more detail and possibly call upon faculty at that institution to assist in the planning for the proposed program.

Communication with writing as the core, is to be a major component of every course in the proposed program from the freshmen inquiry through junior-senior interdisciplinary programs or clusters. The result will be that in meeting the proposed requirements students will write more and receive more directed feedback than is the case under the current requirements. This will be so whether a student enters PSU as a freshman or transfers in at any level.

To achieve these objectives, faculty offering general education courses will be required to complete training on communication across-the-curriculum which will have writing as the central theme. Peer mentors, whether they be graduate or undergraduate

students, will be required to complete similar training prior to participating in the program. We expect that there will be additional follow-up workshops to assist faculty to teach and respond to writing and other forms of communication. Also, guidelines will be developed outlining the expectations for communication experiences for courses at different levels of the program, similar to those which have been developed for writing intensive courses. Finally, the Working Group is committed to exploring and implementing some reasonable means of assessing the writing proficiency of students near the end of their tenure at Portland State University, in order to assure that minimal standards of proficiency are being met through the general education program.

In addition to faculty development and the training of peer mentors the structure of the educational experience at different levels of the program will facilitate the emphasis on writing and communication. This is particularly so for the freshman and sophomore components.

Freshman Inquiry

As we discussed in our September report, freshman inquiry courses will include frequent, almost daily, communication assignments (p. 43). Each class of 30-40 students will be divided into three smaller groups each assisted by a trained peer mentor. These will meet twice a week. The purpose of these small group sessions will be for students to work on their communication assignments with the assistance of the peer mentor. These will not be discussion groups. Rather, the expectation is that students will work together and with their peer mentor to respond to the assignments and to improve their writing and communication abilities. Students will receive immediate feedback and will be expected to build a portfolio of their work.

Some have expressed the concern that students enter Portland State University with varying degrees of prior preparation in the area of communication. Some may need additional assistance. We propose that before beginning classes incoming freshmen be required to write an essay for placement purposes. This would be part of the orientation program and would be conducted at various times to accommodate different student schedules. These would be reviewed prior to the start of classes. Students who are identified as being at risk will receive mandatory placement in WR 115 or WR 121 at the same time as they are participating in freshman inquiry. Other students who want more practice or who believe they need additional assistance will have the option of taking an additional hour per week of small group work.

It is also the case that transfer students will enter PSU with varying levels of prior preparation. It is not feasible to identify at-risk transfer students in the same manner as we propose to identify at-risk freshmen. Rather, we propose that some writing faculty be

assigned to the program as "writing consultants" to assist faculty teaching general education courses in the identification of and appropriate placement of at-risk students.

Courses

The sophomore level courses will also be divided into three smaller groups which will meet one hour per week. These will also be assisted by trained peer mentors. The expectation is that sophomore level courses will continue to have frequent communications assignments and that the purpose of the small groups will be to assist students to work through and complete those assignments.

An additional structural component of these courses will be that the Writing Lab will be structured into part of the course experience. Our intention is that as part of the small group activities students will be introduced to the resources available at the Writing Lab and that they will work on at least some of their communication assignments with the assistance of the Writing Lab. The purpose is to enhance student awareness of the resources available in the Writing Lab so that they will come to see those resources as a regular part of their educational experiences. The Writing Lab will be given the communications assignments and the expectation is that faculty will work closely with the Writing Lab as they develop courses.

Junior-Senior Courses

Courses at this level will also be communication intensive. Faculty will have completed training in writing across-the-curriculum and the expectation is that they will give frequent communication assignments. Additionally, "writing consultants" assigned to the program will assist in the development of the communication components of those courses. Assignments will continue to be provided to the Writing Lab and students encouraged to make use of that resource.

Throughout the program heavy emphasis is placed upon frequent communication assignments with writing as the core. Regardless of the point at which they enter Portland State University, students will experience more writing and other forms of communication as means of expression and learning than is the case under our current general education requirements.

DIVERSITY

In our previous report we stated that the current diversity requirement--two courses selected from different departments--has evolved in a manner (over 100 eligible courses) which has diminished the focus and coherence intended for this requirement (p. 15). There is no question that establishing this requirement was an important first step

toward building an institutional emphasis upon diversity. The General Education Working Group has been and continues to be committed to furthering that emphasis. We firmly believe that our proposed program will contribute to enhancing this university community's awareness of, sensitivity to, and appreciation of societal diversity.

On page 9 of that report we presented a table which indicated that among those universities and colleges implementing large-scale changes in their general education programs 61 per cent offer gender issues across-the-curriculum and 61 percent have adopted cultural pluralism as an across-the-curriculum theme. We also set forth our goal as being that: "Portland State University will begin to be among those universities and colleges which include these issues in coursework across the curriculum (p. 37)." The General Education Working Group continues to be strongly committed to this goal and understands these issues to be an integral part of our recommended goals and strategies (pp. 18-20). The immediate issue is how to implement this goal absent a specific requirement identifying courses which must be taken.

Given our goal of integrating diversity within general education courses our approach to implementation is twofold. First, faculty teaching in the general education program will be required to complete faculty development which focuses upon how to include diversity issues within the courses they are developing or adapting for the program. Peer mentors will be required to complete a similar development program. Though implementation differs from campus to campus, this general approach is being explored and in many cases adopted by colleges and universities across the country. For example, the Association of American Colleges has in place a nation-wide program focused on developing curriculum which will enhance student awareness and understanding of cultural pluralism and diversity as part of their expected coursework. Other universities and organizations such as the National Institute on Issues in Teaching and Learning at the University of Chicago offer seminars which are focused precisely on how to implement the goals envisioned in our proposal. We fully expect to take advantage of those resources as well as those within our University.

The second element of our approach will be to insure that persons with expertise in developing and delivering courses related to diversity, particularly those faculty who teach in the Women's Studies and Black Studies Programs, are members of the general education committee. It is this committee which will oversee and facilitate course development as well as faculty development for the general education program and it is clearly imperative that its membership includes faculty with this expertise. Additionally, we expect the freshman inquiry faculty to include persons with such expertise.

Both of these elements are essential to building toward full institutional emphasis upon diversity. Through faculty development and the participation of faculty with expertise in diversity issues, the proposed general education program will be an important component for achieving that overall goal--a goal which is important for our increasingly diverse student body and which will foster the abilities of our students to successfully interact with an increasingly diverse societal environment.

STRUCTURE OF SOPHOMORE AND UPPER DIVISION LEVELS

Several at the symposium and subsequently have raised questions about the sophomore through senior level course structure in the proposed program. The lack of specificity about these parts of the program is the result of two factors. The first is that these elements of the program are dependent upon faculty from all parts of the University developing new courses or adapting existing courses. As a result we have few current examples of courses we can provide. The second factor is that while we were developing this part of the program we became aware of the large number of curricular initiatives being worked on by several faculty across the University. We intentionally left this part of the program open so as to be able to accommodate those courses and programs within the proposed general education program.

One example of a series of courses which might be developed for the upper-division portion of the program is the three course sequence "American Value Conflicts." This team taught course is being offered for the first time this Fall Quarter. We have included a copy of the overall description and the Fall term syllabus for this course in Appendix B.

For other examples of the types of courses which might be developed for the program we offer the following titles from the current catalog of Evergreen State College in Washington:

Hard Choices: Public and Private Decision-Making in the Contemporary World.
Community Development: Local and Global Perspectives.
Humans and Nature in the Pacific Northwest.
Knowledge, Truth and Reality.
Geography and Environment: Systems in Conflict.
The Human Condition: Time, Place, Values.

Many courses at Evergreen are offered by teams of 2-3 faculty who bring their disciplinary expertise to bear on the topic under consideration. The success of the Evergreen program attests to the learning potential of this approach--for both students and

faculty. We envision that a number of such courses will be developed in conjunction with the proposed general education program.

The model envisioned for the development or adaptation of individual courses which would then be structured into integrated clusters on the basis of a theme is similar to the approach adopted by the University of Washington for its College Studies Program. In that program, courses are developed by faculty and then grouped into integrated sequences. Examples of sequences and courses include:

American Political Culture:
- ENGL 281/POL S 281-Introduction to American Political Culture.
- ENGL 282-American Literature and Political Culture: Origins to 1865.
- ENGL 283-American Literature and Political Culture: 1865 to Present.
- POL S 318-American Political Thought.
- HISTA A 410-American Social History: The Modern Era.

Creativity, Technology, and Innovation.
- ART H 232-Photography: Theory and Criticism.
- ENGL 350-Theories of Imagination.
- HST 315-Introduction to the History of Technology.
- TC 420-Introduction to Technology as a Social and Political Phenomenon.

Cognitive Science.
- PSYCH 354-Introduction to Cognitive Science.
- ANTH 358-Culture and Cognition.
- CSE 415-Introduction to Artificial Intelligence.
- LING 442-Introduction to Semantics.
- PHIL 464-Philosophical Issues in the Cognitive Sciences.

Human Biology and Behavior.
- ANTH 220-Biological and Cultural Bases of Human Behavior.
- PHY A 372-Evolutionary and Nonevolutionary Views of the Human Species.
- WOMEN 453/ANTH 483-Women in Evolutionary Perspective.
- ZOOL 409-Sociobiology.

As these examples illustrate, the plan to cluster individual courses around a theme is not particularly new. The University of Washington program has been established, been successful, and continues to grow with new sequences or clusters in preparation.

For the program we propose, individual faculty or groups of faculty could develop a new course or adapt an existing course incorporating the goals and strategies of the program. The general education committee would have the role of assisting faculty to develop and adapt courses and then integrate these on the basis of theme or subject matter into a general education cluster. The general education committee would also have

among its functions the facilitation of communication among persons offering courses within a cluster. Each cluster would include 7-10 courses at least one of which would be offered at the sophomore level as an introduction to the cluster. The remainder would be offered at the upper-division level with students required to complete four upper-division courses within a cluster (12 credits). Each cluster would include courses from several different disciplines.

As noted above, a number of faculty are currently involved in developing interdisciplinary programs or sequences. These include the American Studies program which is well along in its preparation and a Latino-Chicano studies program which is at an earlier stage of development. Each of these as well as other possible programs may be included partially or wholly within the sophomore and upper-division portions of the program.

As an example of such an interdisciplinary program we have included in Appendix B a overview of and course descriptions for the Science in the Liberal Arts Program which began offering courses this quarter. This is an example of a fully developed interdisciplinary program extending from the sophomore through the senior years which could become incorporated within the proposed program.

The amount of time required of faculty participating in the sophomore and upper-division parts of the program will depend upon whether they are part of a joint or team taught course, an interdisciplinary sequence, or teaching an individual course. Persons teaching one course within a cluster could offer that course once each year or even every other year. Faculty teaching these courses will not be expected to shift substantial portions of their teaching responsibilities to the general education program. By structuring the program in this way it should be possible for faculty from small departments and programs to participate in this part of the general education program without substantially diminishing the faculty resources in that department.

Several questions have been raised concerning the course requirements being proposed for the sophomore and upper division levels and this section seeks to clarify those issues. At the sophomore level students will be required to take three 4 credit courses. Each of these courses must be from a different interdisciplinary program or course cluster. As envisioned, these courses will be developed as introductions to upper division courses in a program or cluster.

Beginning with the junior year students will be required to complete four 3 credit courses within an interdisciplinary program or course cluster. The expectation is that students will choose upper division work in one of the clusters or programs begun in the sophomore year, but this is not required.

FACULTY RESOURCES

As at least a partial response to the general concern about the amount of faculty resources required to support the proposed program should it be fully implemented we offer the following estimates. Our estimates are based upon student enrollment figures presented in the 1992 *Statistical Portrait* prepared by the Office of Institutional Research and Planning.

As we noted in our September report (p. 41) we are planning for twenty sections of freshman inquiry to be offered in the Fall of 1994 should this proposal be adopted. These three 5 credit courses would be taught by four faculty teams consisting of five persons each. These faculty would devote 2/3 of their teaching load to the freshman inquiry. This is the equivalent of 13.3 FTE. We understand that should the number of entering freshmen increase, more faculty teams will be needed and that the FTE equivalent will similarly increase. This fall approximately 745 first time freshmen enrolled at Portland State University. This number could be accommodated by our estimate of 20 sections for freshman inquiry. However, should this number rise appreciably, or should a large number of transfer freshman opt to complete the proposed program rather than requirements listed in previous catalogs, then more sections would be required.

As the program is fully implemented and the option of completing the current general education requirements no longer pertains, there will be a need for additional faculty for the freshman inquiry courses. For present purposes we will estimate this to be six 5 person teams or 30 faculty at 2/3 time. This is the equivalent of 20 FTE once the program is fully in place with the requirements pertaining to all entering freshmen.

For the sophomore level we based our estimates on class sizes of 50 students per class. This results in an estimate that thirty course offerings per quarter would be needed if current enrollment patterns continue. This is the equivalent of 10 FTE.

At the upper-division level, students will be taking four courses spread over six academic quarters. Again basing our estimate on average class sizes of 50 students we anticipate that forty course offerings per quarter would be needed. This would be the equivalent of 13.3 FTE.

The result is that should this proposal be adopted 40.3 FTE would be needed to support the course offerings of the program once it is fully implemented. These estimates could change should there be a significant shift in our enrollment patterns. If this program is adopted with the outcomes we expect, Portland State University will become

an institution of choice. In that case we should anticipate a rise in the number of entering freshman which would further increase the resources needed for that part of the program.

These estimates do not include the resources which will be needed to support the senior capstone. As we discussed in our previous report (pp. 53-55) faculty and students will need significant support for capstone projects. At a minimum a support center will need to be developed which will have primary responsibility for project identification, negotiation between the University and public and private organizations, and project monitoring. Some faculty have already begun to work toward the development of such a center. Further, we also expect that there will be a role for several graduate students from across the University to assist faculty with the monitoring and oversight of capstone projects.

It is also clear that faculty will need to be involved to insure the academic integrity of this learning experience. At this point we are not able to provide a reliable estimate of the faculty resources which would be required. This is so primarily because our proposal includes the provision that departments and majors may develop their own capstone or adapt existing major requirements to conform to the stated objectives for the capstone (p. 51). Students in those departments or programs would not also be required to complete a capstone experience offered under the general education program. The Working Group has been made aware that some programs and departments have already begun discussing this possibility. As an example, the Executive committee of the Theater Arts Department sent us a memo which outlines a proposal for a capstone for Theater Arts majors which would also be available for students majoring in other disciplines and programs (Appendix A). This proposal well illustrates the type of experience envisioned and discussed in our previous report.

It is difficult therefore for us to estimate the number of faculty who would be involved with capstone projects offered under the auspices of the general education program. It is clear, however, that implementation of the capstone would require the participation of a number of faculty. It is also clear that the capstone will significantly add to the education of our students and to the identity and presence of Portland State University in this metropolitan community.

PROCESS VS. CONTENT: THE ISSUE OF ACADEMIC INTEGRITY

While the emphasis given to learning processes in the proposed program was generally supported at the symposium and in subsequent discussions, there has also been a frequently expressed concern about the level of substantive content of courses in the program, particularly freshman inquiry. We have discussed this issue at some length and have come to understand the question as that of whether the courses in the program at all levels, but particularly freshman inquiry, will be academically rigorous alongside the emphasis on learning how to learn. The concern about the academic integrity of courses in the program is shared by the Working Group and we believe that the process of course proposal and preparation we have developed will contribute to maintaining the standards of academic integrity expected by all members of the University community.

Several symposium participants expressed these reservations based on prior, less than satisfactory experiences with team teaching. Others stated that in their experience such courses were often as or more academically sound than individually taught courses because of the interactions among professional colleagues. While team-taught courses have pitfalls--which can often be avoided through careful planning and preparation--they also have many benefits. When appropriately structured, academic rigor is rarely a problem for team-taught courses. The addition of professional colleagues to one's audience brings an increased seriousness of purpose and commitment to the disciplinary content. Teaching and learning in a team-taught context is especially exciting, engaging, and demanding. A more common problem which many have experienced is the tendency of faculty to teach to one another with the level of the course rising above what might be appropriate for student learners. This can be avoided by faculty being attentive to this problem and establishing an acceptance of mutual oversight.

The process which we expect to become the model for developing freshman inquiry courses evolved from the efforts of members of the committee, beginning last summer, to develop course proposals. One team has continued its efforts this fall and has produced a proposal for faculty development and a preliminary outline for a freshman inquiry course entitled "Shifting Realities: Albert Einstein's Relativity." This proposal can be found in Appendix B. The faculty involved with the development of this course shared drafts with all members of the Working Group. We would collectively comment, criticize, and offer suggestions to the "Einstein Team." Advice and suggestions were also sought from other members of the faculty with specific expertise in different subject areas

encompassed by the course. An earlier draft was circulated among all faculty in the Physics department for comment and suggestions.

What has emerged from this process is not yet a complete description and syllabus for a freshman inquiry course. Rather, it is a proposal for faculty development. Should this course ultimately be fully developed and offered the members of the faculty team will be expected to read, discuss, and write about the topics and readings contained in the proposal. During the latter part of the development process it is expected that the peer mentors would be identified and begin to participate in the development of the course. It is not the case that each member of the team will be expected to teach each topic contained in the outline. Rather, each faculty will teach from their strengths.

There can be no question as to rigor and integrity of the "Einstein Course" or doubt as to its potential to contribute to student learning. Because of this experience, the members of the Working Group have come to have great confidence in the integrity of this approach to course development. Each faculty team will develop proposals, have these reviewed and discussed by the entire freshman inquiry faculty, consult with faculty whose particular interests and expertise can assist with different parts of the proposal, and finally produce a proposal for faculty development following which the course syllabus will be developed.

At the sophomore and upper division level courses will be developed or adapted from existing courses by individual faculty or groups of faculty. These will be reviewed by the General Education Committee which will facilitate the evolution of proposals which are both rigorous and directly address the goals and strategies of the proposed program. Additionally, within interdisciplinary program and course clusters faculty offering different courses within the program or cluster will be expected to meet to review courses and discuss changes within that program or cluster.

Throughout the program the academic quality of course offerings will be a matter for faculty review and discussion. ***It is faculty interaction and peer review as part of the process of developing courses for all levels of the program which is the strongest guarantor of academic integrity and which will become one of the hallmarks of this general education program.***

CORRESPONDENCE WITH K-12 SCHOOL REFORM

Several symposium participants raised the question of the correspondence between the proposed general education program and the K-12 reforms in Oregon public schools. The Working Group has reviewed this issue and has concluded that adoption of the proposed program will result in this University being better prepared to meet the needs of students whose educational experiences have been shaped by the impending changes in primary and secondary education than would be the case under the current general education requirements.

We have attached a copy of the current draft of the learning objectives for the Certificate of Initial Mastery (CIM) and the Certificate of Advanced Mastery (CAM) along with an outline illustrating the reforms. There is a close correspondence between those objectives and the purpose, goals, and strategies we have articulated for the proposed general education program. Further, the planned changes in the delivery of K-12 education include interdisciplinary approaches and outcome based assessment. The implication is that as these changes are implemented within Oregon public schools, those students will come to Portland State University with a background of educational experiences similar to what is being proposed what is being proposed for this University. Thus, our general education program would provide a continuation of those experiences at an advanced level rather than marking a sudden change from one model of education to another. The result will be continuity rather than disjuncture.

Attached to this report is a letter from Shirley Glick, Director of Curriculum and Instruction Support Service for Portland Public Schools. She attended the September 17 symposium, participated in one of the discussion groups, and is very familiar with the proposed program. She points out that once the K-12 reforms are in place students will enter Portland State University having already experienced the transition in learning envisioned by our proposals. For those students, maintaining our current distribution model would be a sharp change in their educational experiences whereas the proposed program will be a continuation of familiar approaches to the delivery of education.

CONSEQUENCES FOR THE MAJOR

In our previous report we discussed the results of a survey of institutions which had implemented reforms in the general education programs. Only 3 per cent of the respondents indicated that the general education reforms had negatively affected the

majors (p. 8). Though we can only anticipate the possible consequences of the proposal for the major, the Working Group has consistently sought to design a program which would be supportive of majors rather than one which would erode or weaken them.

Our primary reason for seeing the program as supportive of the major is the enhancement of student learning abilities. Students will be better prepared to meet the expectations of upper division work in majors. This will be especially so in terms of communication abilities.

An additional outcome may be an increase in the number of students choosing to formally minor in different programs or complete double majors. The reduction in the required general education credits from 63 to 45 will give students more flexibility to pursue those options. More than one student at the September symposium indicated that they would have pursued a minor or double major but for the necessity to complete the current general education requirements.

The effects of the proposed program for recruitment of majors are unclear. It is the case that students would no longer be required to take introductory courses within the current academic distribution areas. However, many students would still be looking to complete a significant number of elective credits and as a result may well sample different majors through their introductory courses. It is also likely that faculty participating in the freshman and sophomore levels of the program will become quite important for attracting students to their home departments and programs.

PEER MENTORS

The use of peer mentors within the course structure of the freshman and sophomore levels of the program was widely supported by those participating in the September symposium. Questions were raised as to their training and role.

The peer mentors for the freshman inquiry courses will be expected to participate in the final preparation of those courses alongside the faculty teams. The small group sessions will not be discussion sections but rather the role of the mentor will be to work with and assist students to complete their communication assignments.

At the freshman level the peer mentors will be upper division students who have received appropriate training. Over 500 colleges and universities have adopted similar models--often termed supplemental instruction approaches. Most, but not all, report greater success using upper division undergraduates as opposed to graduate students. Undergraduate mentors seem to be more able to establish the student-to-student interactions integral to the success of the program.

Overall, universities and colleges implementing supplemental instruction report reduced student failures and withdrawals from individual courses, higher rates of re-enrollment (retention), and significant improvements in course grades. California State University, Long Beach reports improvements among "at risk" students of one letter grade or more compared to courses without supplemental instruction. Long Beach uses graduate students for their program and this may be an appropriate approach for the sophomore level courses in the proposed program.

The University of Missouri-Kansas City has become the national center for the support of supplemental instruction programs. Over the past ten years they have provided training for faculty and students across the country. This nationally recognized program has available the materials and technical assistance along with certified trainers which would be of great assistance as we implement that part of the program. This approach, which is integral to freshman inquiry and the sophomore level of the proposed program, is a proven model which has been found to provide significant enhancements to student learning.

SUMMARY

In this report we have discussed the program revisions we have adopted since the September symposium and have sought to respond to questions and concerns about the proposal by clarifying and more completely discussing several features of the program. From reading both reports it should be apparent that the components of the proposed general education program are not entirely new creations which do not have a history of success at other institutions. Rather, structural and pedagogical components of this plan have been implemented at different institutions. What is different about our proposal is that it combines these separate approaches into a comprehensive program extending through all four years of the university experience. Further, in our previous report we presented the research base for the expectation that this program--grounded on an articulated purpose which will guide the program as it evolves and matures, built on a firm pedagogical foundation, and from the freshman through the senior levels, will significantly enhance the educations of our students. Because of their experience at Portland State University our students will acquire the abilities and the propensities to engage in life-long learning. Portland State University will become an institution of choice.

APPENDIX A

PORTLAND PUBLIC SCHOOLS

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CURRICULUM AND INSTRUCTION SUPPORT SERVICES

SHIRLEY GLICK
Director

October 21, 1993

Dr. Charles R. White, Chair
General Education Working Group
Department of Political Science
Portland State University
PO Box 751
Portland 97207

Dear Chuck:

I am pleased to respond to your request for a review of the report and recommendations of the General Education Working Group. You asked that I focus my comments on the compatibility between the directions in your report and the directions I predict for K-12 education in Oregon during this decade and beyond. As you know, those directions will be greatly influenced by the implementation of HB3565.

There are several ways in which I see parallel and compatible directions.

1. The emphasis on interdisciplinary/integrated/thematic studies and applied learning. I have shared with you the outcomes developed by the Oregon Department of Education (ODE) for the Certificate of Initial Mastery (CIM) and the Certificate of Advanced Mastery (CAM). They are clearly interdisciplinary in nature. They are also consistent with the goals for general education outlined in the recommendations of the committee which you chair. The strong emphasis in your report on faculty development and collaboration is a necessary component of this approach. My experience is that it is very exciting, energizing, and demanding for faculties which undertake it. At the small group sessions during your symposium, I heard my experience confirmed by members of PSU faculty who have undertaken these efforts.

2. The general education committee recommendation that focus on what students are able to do must be added to a focus on what students know is totally consistent with the national trend toward Outcomes Based Education (OBE). OBE as defined by Dr. Bill Spady, a nationally recognized leader in Outcomes Based Education, calls for attention to what students know, can do, and are like. The third piece of this formula adds concern for student citizenship and affective competencies. The CIM and CAM outcomes clearly speak to the extent that the ODE has endorsed the concept of outcomes based education. I see some of your recommendations as transitional as defined by Dr. Spady. The expected outcomes defined for the freshman core are consistent with OBE and build upon CIM/CAM outcomes.

3. % The acquisition of lifelong learning skills and predilections which your report addresses are also a strong thrust in K-12 education. In almost every field of K-12 education, learning is becoming increasingly seen as students constructing their own knowledge base as a result of meaningful, contextualized learning experiences. There is growing recognition that students as passive receptors of factual knowledge will not produce the kinds of citizens and workers this country will need during the next century. The recommendations of your committee place emphasis on putting students in interdisciplinary learning situations where learning is more contextualized; thus, it appears to me that the directions you are recommending hold more promise for helping students along this road than does the current PSU distribution system. It is my hope and belief that you will not, at the university level, be helping students make the transition to this type of learning but that you will be helping them extend what they have gained in these directions during their K-12 experiences.

4. Your focus on developing a learning community and cross pollination among students, the community, and the university is consistent with the site based decision making and the approaches to the CAM outcomes being encouraged by HB3565 and ODE.

5. % Your emphasis on the need for appropriate assessments is very consistent with current K-12 directions. One difference I see here is that much of your discussion appears to be revolving around program evaluation whereas most K-12 discussion revolves around assessment of student performance of outcomes based on defined standards for all students. I believe that assessment is the critical key to the educational reforms in the making; it is also the one where we have the least expertise and where the most change is needed. However, there are places in this country and in this school district where faculties are accepting the challenge and making significant strides.

There is certainly more I could say here. However, I believe that in the interests of brevity, I've said enough to clearly indicate that the directions you are heading in the general education recommendations are consistent with the ones I think this state is endorsing and with national trends

I wish you the best as you continue this exciting work. Please let me know if I can be of further assistance.

Sincerely,

Shirley Glick

Shirley Glick
Director of Curriculum and Instruction Support Services

SDG
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Portland State University

MEMORANDUM

October 18, 1993

TO: Charles White, Chair, General Education Working Group
FROM: Theater Arts Executive Committee
RE: How the Senior Capstone may work in Theater Arts

The six credit Senior Capstone proposed by the General Education Working Group is well-suited to the needs and interests of the Portland State University Theater Arts Department. If implemented, it would result less in the addition of a new dimension to the Theater Arts Department than in the formalization of already present elements and practices.

Given the nature of theater study, theater production would be the natural form of the Theater Senior Capstone. Within the context of the Senior Capstone, teams of theater and qualified non-theater students would work together in order to develop theater productions that would be presented in and for the community. In that the ultimate goal of the team is the staging of a particular play or the presentation of a performance on a specific date or set of dates, the theater capstone project would not be open-ended but would have the kind of definite closure that the Working Group on General Education seems to mandate.

Implementation of the six credit Senior Capstone would encourage the further development of the kinds of projects that most clearly represent the culmination of a theater student's education at Portland State University. In this regard, a capstone production project is consistent with the Theater Arts Department mission: "Through classroom study, studio/laboratory preparation, and University Theater production, the Department of Theater Arts is committed to providing liberal arts based pre-professional training which balances theory and practice."

As described in the General Education Working Group Report and Recommendations, the six credit Senior Capstone has three main objectives. All three Senior Capstone objectives can be easily met by Theater Arts student production projects.

Objective I:

To provide an opportunity for students to apply the expertise learned in the major to real issues and problems.

Involvement in Senior Capstone productions would provide students with a transition between their theater work within the carefully protected university environment and their work in the non-university theater. They would have the opportunity to take on the complex challenges and responsibilities of producing and staging a theater production. Involvement in a Senior Capstone production would represent the culmination of a student's work in the PSU Theater Department--providing student participants with the opportunity to test what they have learned and to explore more deeply the theater areas, which most interest them.

Objective 2:

To give students experience working in a team context necessitating collaboration with persons from different fields of expertise.

By definition, theater production is a collaborative experience. Moreover, it is an experience within which participants have specifically defined roles and responsibilities. In developing a production team, individual students can function as playwright, director, dramaturg, choreographer, music director, scenic designer, costume designer, lighting designer, technical director, producer, business manager, publicity manager, as well as actors. The overall success of a production is largely dependent on the degree to which individuals accomplish their specific tasks, and the extent to which tasks are accomplished is largely a result of participants' abilities to co-operate with the other team members.

The possibility for teamwork among students drawn from different departments is certainly possible here. Not only might production teams draw students from the various Fine and Performing Arts Departments, but students functioning as dramaturgs may come from literature departments, other departments in the humanities, or even--in special cases--from the social sciences and sciences. Additionally, business or arts administration students may be involved in business management activities.

Objective 3:

To provide the opportunity for students to become actively involved in the community.

The Theater Department mission statement defines the present production program in terms of "new, modern, and classic works interpreted to confront and illuminate the diverse concerns of contemporary life." In that our students receive their training through this production program, it is perfectly natural to assume that this production program will establish the tone for capstone productions. In this regard, the degree of community involvement will vary from one project to another. Among the variety of ways in which this third objective may be met are the following:

The theatrical approach governing the production of a standard text may be specifically related to community concerns--that is, it is possible that community concerns may be addressed not so much by the script as by the interpretation of it. For instance, a production of a Shakespeare play or any other classic that calls attention to issues of immediate concern to the community may successfully fulfill Objective 3.

Plays chosen for production may be immediately relevant to

the community or one segment of the community. Perhaps, plays will be created specifically for the community. In this regard, a production team might develop a contemporary "Living Newspaper." Just as the "Living Newspaper" division of the WPA Federal Theater developed texts that addressed topical social problems such as housing (One-Third of a Nation) and the cost of energy (Power), a student version of the "Living Newspaper" might address homelessness in Portland, public education in Oregon, or investigate and offer possible responses to other pressing problems such as the growth of gang violence, hate crimes, and the AIDS epidemic in Portland.

Theater productions require audiences, and these audiences are drawn from the community. Moreover, it is also possible to meet this third objective by actually taking the theater event into the community. Whereas the studio space may represent an ideal space for student developed productions, there is no reason why students may not stage their productions in the community--performing in high schools or other available spaces. This flexibility with regard to performance space would be especially relevant to productions geared toward a particular group (ethnic or otherwise).

Finally, the possibility of students developing arrangements with existing theaters in the Portland area would certainly demonstrate an active involvement with the community--in this case, the professional theater community.

APPENDIX B

PROPOSAL FOR COURSE DEVELOPMENT:
"SHIFTING REALITIES: ALBERT EINSTEIN'S RELATIVITY"

This is a proposal for faculty development of a three-term first-year core course. The course would be developed during AY 1993-94. The following faculty have contributed to the development of this proposal:

Martha Balshem, Anthropology
Lois Becker, History
Erik Bodegom, Physics
Barbara Edwards, Mathematics (1992-93)
Mike Flower, Honors (Biology;History and Culture of Science)
Paul Latiolais, Mathematics
Doug Robertson, Education
Laurie Skokan, Psychology
Rich Wattenberg, Theatre Arts

Course Objectives:

The learning process involved in gaining even a rudimentary understanding of Einstein's theories of relativity are nontrivial. Engaging in this effort at understanding will support the goals of the proposed PSU General Education program by: helping student ability to reason critically and engage in inquiry; enhancing student familiarity with science and scientific inquiry; enhancing student ability to communicate quantitative concepts; and, especially if we find appropriate physics education software, developing student ability to understand and critically evaluate information presented in graphic form. Through material from the humanities, arts and social sciences, we will explore the historical course and social and cultural implications of scientific change, and address the issue of diversity and inequity in science professions. Interaction with our teaching team will familiarize students with a range of modes and styles of inquiry, and provide them with an awareness of choices among academic disciplines and programs.

We anticipate that this first-year core course will be solid preparation for students who will later elect to take Physics 201-202-203 or 211-212-213.

Evaluation:

Evaluation for these courses will be based on writing assignments, mathematics assignments, and a midterm and final for each term. Writing and mathematics assignments will be designed during course development. They will support the General Education goals of developing student ability to write and to communicate quantitative concepts.

Other Instructional Issues:

Our only prerequisites for this course will be the mathematics and science courses required for university admission--that is, first year high school algebra and two additional years of high school mathematics, and two years of any high school science. Most of our students will not have taken high school physics. This limited preparation in mathematics and science poses a major challenge to our science faculty, as the physics teaching involved is considerable. We anticipate that a full eight weeks of teaching

time in both fall and winter quarters will be devoted to concepts in physics, and taught by physics faculty. During the faculty development process, non-science faculty will undergo the learning processes that we will later want our students to undergo.

A major instructional goal is for each student to gain some familiarity with relativity theory and a beginning appreciation of the way that physical scientists communicate through the language of mathematics. To accomplish that requires ample time to play with and build an understanding of certain key concepts in physics. Previous experience suggests that we can teach the physics we will need to teach within the timeframe suggested here. To facilitate teaching and learning, we will explore a number of instructional modalities: text, lecture, graphics, films, and physics education software. We hope to give each student the opportunity to use his or her strongest cognitive abilities--be they logical-mathematical, spacial, or linguistic--to come to some appreciation of Einstein's achievements.

Preliminary Outlines for Each of the Three Terms (to be revised during faculty development):

FALL QUARTER:
BACKGROUND TO EINSTEIN: HISTORY AND PHYSICS

A. Turn-of-the-century Western Europe: the time and place of Einstein's birth (1879)

1. » A time of pivotal intellectual change
   a. The social and cultural impact of the maturity of the industrial revolution
   b. The perception that modern science and technology were conquering the world
   c. Ideas about change, rational thought, observation and the nature of reality

2. % Shifting definitions of objectivity, perception, space and time
   a. » Graphic arts, theater and music
   b. » Social and behavioral sciences
   c. x Philosophy
   d. Mathematics
   e. Physics

B. Physics: background for an understanding of Einstein

1. Quantification
   a. Measurements
   b. Estimates
   c. Order of magnitude
   d. Units

2. Newton's First and Third Laws
   a. » Force
   b. » Equilibrium
   c. Inertial frames

3. Kinematics
   a. Linear motion
   b. 3-D motion
   c. Relative velocity

4. Dynamics

5. Gravitation, mass and weight

6. Work and energy

WINTER QUARTER:
EINSTEIN'S THEORIES OF RELATIVITY

A. A brief biography of Einstein's early life
   1. The Jewish assimilation in Austria-Germany
   2. Einstein's school experiences
   3. Einstein's discovery and love of mathematics
   4. Einstein at the patent office

B. More background in physics
   1. Galilean invariance
   2. Electromagnetism
      a. Speed of light
      b. Inertial frames
   3. The Michelson-Morley experiments

C. The special theory of relativity
   1. Einstein's postulates
   2. Rest mass
   3. Time dilation
   4. Length contraction
   5. Twin paradox

D. Relativistic kinematics and dynamics

E. The general theory of relativity (Note: It is very difficult to appreciate this work without an advanced mathematics background; of necessity, we will present a description of a very cursory nature.)

F. Return to biography
   1. Einstein as a world-renowned hero
   3. Einstein's Jewish identity
   2. Einstein's later writings on social and philosophical matters such as world peace

SPRING QUARTER:
SCIENCE AND SOCIETY

A. Science as a social, cultural, and historical phenomenon
   1. Is what scientists think to discover rooted in the intellectual climate of their times?
   2. Can we appreciate Einstein's work in this way?
   3. Are there relativity concepts in the arts, humanities and social sciences that share common roots with Einstein's concepts of relativity?

B. Current issues in science and society
   1. Changes and continuities in the social position of science since the early 1900s
   2. 6 Faith in science in the postmodern era
   3. % Sex, ethnic and social class equity in math and science
   4. 6 How computers have changed our concepts of discovery
   5. What scientific authority means, given the social and cultural nature of science and of the wider world, in terms of human values

C. Course Capstone: Einstein
   1. Experimental verification of Einstein's theories of relativity--outlook
   2. History, culture and intellectual change--affinities among the arts, sciences, and humanities
   2. 6 Einstein, science and society--world peace, Israel, the atom bomb, and the morality of science

Reading List for Faculty Development:

Following is an preliminary reading list for faculty development, to be revised as course development proceeds. Some of these materials appear to be useable as student texts.

Crease, Robert P. and Charles C. Mann The Second Creation: Makers of the revolution in twentieth-century physics. Macmillan, New York, 1986. Based on interviews of currently working physicists.

Einstein, Albert Autobiographical Notes. Paul Arthur Schilpp, Trans. and Ed.. Open Court Publishing Co.,LaSalle, IL, 1979. All there is of an autobiography.

_____ The World as I See It. Alan Harris, Trans. Philosophical Library, New York, 1949. Essays from 1922-1934.

_____ Out of my Later Years. Philosophical Library, New York, 1950. Essays from 1934-1950.

_____ [The major 1905 and 1915-16 papers.]

French, A.P. Einstein: A Centenary Volume. Harvard U.P., Cambridge, MA, 1979. This is put together by The International Commission on Physics Education and seems like a good teaching resource. It contains parts of the 1905 and 1915-16 papers.

Gregory, Bruce Inventing Reality: Physics as Language. John Wiley, New York, 1988. Takes up the question of the relationship between human languages (like mathematics as used in physics) and physical reality. An essential question for this course.

Hobson, Art Physics and Human Affairs. John Wiley, New York, 1982. A physics text for non-science majors. Part 3, "Transition to the New Physics," reviews the physics we need to understand before we can appreciate Einstein.

Holton, Gerald Thematic Origins of Scientific Thought: Kepler to Einstein. Harvard U.P., Cambridge, 1988 [Revised; first ed. 1973]. Chapter 8: "Mach, Einstein, and the Search for Reality." (pp. 237-277) Shelton (below) debates Holton's point of view regarding observation, theory, and scientific discovery.

Jungnickel, Christa and Russell McCormmach Intellectual Mastery of Nature: Theoretical Physics from Ohm to Einstein. Volume 1: The Torch of Mathematics, 1800-1870. Volume 2: The Now Mighty Theoretical Physics, 1870-1925. Especially Vol. 2, Ch. 24, "New Foundations for Theoretical Physics at the Turn of the Twentieth Century." (pp. 211-253). According to one review, a great social and cultural history remains to be written, but this is a masterful compilation of facts from archives, with the chapter cited as the best in the two volumes.

Kruger, Lorenz, Lorraine J. Daston and Michael Heidelberger, eds. The Probabilistic Revolution. The MIT Press, Cambridge, MA, 1987. Volume 1: Ideas in History and Volume 2: Ideas in the Sciences. Attempts to tie the shift to modern psychology, physics and other fields to a general revolution in the application of mathematics to science.

Lightman, Alan P. Einstein's Dreams. Pantheon, New York, 1993. A novel about time and a young clerk in a German patent office.

Pais, Abraham 'Subtle is the Lord...': The Science and the Life of Albert Einstein. Clarenton Press, Oxford, 1982. General overview--biography and physics. One physics student has reported that this was fun to read.

Pickering, Andrew Constructing Quarks: A Sociological History of Particle Physics. U. of Chicago Press, Chicago, 1984. Gregory reviews this as: "A fascinating look at physics from the perspective of a sociologist."

Pyenson, Lewis The Young Einstein: The advent of relativity. Adam Hilger Ltd, Bristol, England, 1985. General overview--biography and physics--seems more accessible to the non-scientist than Pais.

Science in Context. This journal, available at the Lewis and Clark library, has recently published a special issue on Einstein.

Shelton, Jim "The Role of Observation and Simplicity in Einstein's Epistemology." Studies in the History and Philosophy of Science 19(1):103-118, 1988. Debates Holton, above.

Traweek, Sharon Beamtimes and Lifetimes. Harvard U.P., Cambridge, 1988. An ethnography of the world of experimental high-energy physics.

American Value Conflicts, Fall Quarter: Beginnings

Thursday, 9/23/93. General Introduction to the course.
Lecture: Values and Value Conflicts (Michael Philips, Philosophy).

Tuesday, 9/28/93. The Original Idea(s).
Lecture The Evolution of Values in Colonial America (David Horowitz, History).

Readings: David W. Noble, "Flight from Feudalism: The New World and the Puritan Covenant,"from Historians Against History (1965), pp. 5-7.

A Letter of Christopher Columbus (1493), pp. 3-5.

Charles L. Sanford, "The Protestant Millennium and the Struggle for Empire," from The Quest For Paradise: Europe and the American Moral Imagination (1961), pp. 74-93.

The Mayflower Compact (1620).

John Winthrop, "A Model of Christian Charity" (1630).

Roger Williams on Toleration (1655).

Charles L. Sanford, "The American Cult of Newness: A Rebirth out of Hell," from The Quest for Paradise: Europe and the American Moral Imagination.

Thursday, 9/30/93. Discussion of the lecture and the Readings.

Tuesday, 10/5/93. 18th Century Responses to Europe (Franklin).

Lecture: Franklin and the Enlightenment (Paul Giles, English).

Readings: Benjamin Franklin, The Autobiography, Parts I and II; Extract from Poor Richard Improved (1758); Silence Dogood, No. 4.; Old Mistresses Apologue; Speech in the Convention (1787);

The Sale of the Hessians; An Address to the Public from the Pennsylvania Society (1789).

Tuesday, 11/2/93. The American/European Dialectic, Further Theatrical Expressions

Lecture: In Search of An American Theater (Richard Wattenberg, Theater Arts)

Readings: John August Store Metamora

Garf Wilson, from Three Hundred Years of American Drama and Theater, pp 80-83 (from "Ye Bear and Ye Cubb" to "Hair")

Thursday, 11/4/93. Discussion of the Lecture and the Readings

Tue 11/09/93. Values in Early American Architecture.

Lecture: Pragmatic and Organic Principles in the Architecture of the Colonial Period (Lisa Andrus, Art History)

Readings: Lisa Fellows Andrus, from Measure and Design in American Painting

William H. Pierson, from American Builders and their Architects: The Colonial and Neo-Classical Styles, pp. 50-60

John McCoubrey, from American Art 1700-1960: Sources and Documents, pp. 2-4

Thursday, 11/11/93. *Veterans Day, No class*

Tuesday, 11/16/93. Values in Painting: Painting as a Useful Art.

Lecture: The Craft Tradition, Calvin's Doctrine of Prosperity and the Introduction of the Aristocratic Ideal (Lisa Andrus, Art History).

Reading: Wayne Craven, from Colonial American Portraits, 38-48.

Thursday, 11/18/93. Values in Painting.

Lecture: Copley and he American Character: Pragmatism and Idealism, American Design and European Painterliness (Lisa Andrus, Art History).

Preview of Coming Attractions

Winter Term

Some of the most important conflicts in American life involve values that seem to be shared by almost all Americans (for example, almost all of us claim to value liberty and equality). Conflicts arise because we disagree on how, more precisely, these values are to be understood. In particular, we disagree about what they entail in different domains of life. These disagreements often produce deep divisions in questions of economic policy, educational policy, the role of religion in American life, the role and organization of the family, and many other issues. In part of the winter term we will explore conflicts of this kind. In particular, Craig Carr (political science) we will examine conflicts between liberty and equality, democratic decision making and efficiency, and free expression and community. And Richard Wattenberg (theater arts) will explore the conflict between ethnic identity and assimilation. (There may be guest speakers on this topic as well).

Many commentators tend to understand such conflicts in the familiar ideological categories of left and right. There is the liberal view, the conservative view and the positions of the far right and the far left. Some of us, however, believe that this approach is not illuminating in a significant number of cases. Michael Philips (philosophy) will critically examine certain well known attempts to define the liberal and conservative points of view and examine their power to generate liberal and conservative policy positions. And David Horowitz (history) will provide two historical case studies in which the standard approach seems unilluminating (the rise of the Oregon KKK in the 1920's and the Oregon campaign against chain stores in the 1930's). He will also propose an alternative.

Spring Term

Part of spring term will be devoted to examining value conflicts that arise in particular areas American life. Although the agenda is not now fixed, the possibilities include family life, sports, medicine, education, entertainment, and law enforcement.
We will also look at the values underlying certain important social issues (e.g., the role of the aging). Finally, we will explore important general value questions that face us as a nation. In particular, we will consider the scope and limits of individualism and the conflict between individualistic and communitarian social ideals.

Science in the Liberal Arts:
An interdisciplinary course cluster for the sophomore and junior years of the proposed General Education requirement

The aim of the Science in the Liberal Arts (SLA) project is to develop a coherent curriculum that will more richly define and help students achieve an interdisciplinary science literacy that allows them greater understanding of the world in which they live. Thus most SLA courses will be designed around interdisciplinary themes. We want students to understand key goals, methods, and unifying concepts in science, and to understand science and technology as complex enterprises that take place in specific social contexts shaped by, and in turn shaping, cultural, moral, political, and economic values. To promote a broad appreciation of science the SLA courses are being designed less to deliver that a compendium of facts than to promote the ability to use facts in the accomplishment of higher order tasks.

Collaborative learning is a key characteristic of SLA courses. Small group learning techniques and collective problem-solving of the sort done in actual laboratories are being stressed. In the courses group discussions will be available on a routine basis, with students encouraged to debate interpretations of data—as well as their positions on the pressing scientific/political/social issues for which the data are relevant. To accomplish the latter the course material is placed in the context of real-world problems. Students learn that they have the ability to gather real data about real issues, to analyze that data, and to make informed decisions about important issues. To encourage thoughtful and meaningful analysis, the problems being put before students are open-ended and minimally defined in advance. The problems require that students go to "the literature" to learn much of what they require to arrive at solutions and to learn about broader issues of science and society.

Sophomore Level

ASC 199: Natural Science Inquiry is the entry level course for the majority of students enrolling in the Science in the Liberal Arts Curriculum. The course focuses on the doing of science within the natural science disciplines. It is designed to engage the student in the collaborative scientific investigation of problems of the sort they might encounter as an attentive citizen. The course uses no textbook and involves very little lecture. The learning students accomplish takes place largely through their own efforts and that of the collaborative group with whom they work. The use of collaborative inquiry takes account of the fact that the modern sciences, as well as the questions they address, require teamwork both within and between specific disciplines. Each year the NSI course will feature a different set of 3-4 increasingly complex projects to be completed by collaborative student work during a term's study. The projects entail extensive use of the library, handling of data (using Excel, for example), and collaborative work reports for each meeting of the class.

Improvement of writing skills is an important goal in this course. In addition to showing what they know (essays and formal reports, some of the latter submitted to

agencies off campus), student writing is designed to facilitate individual and collaborative learning (e.g., journal entries, focused freewriting, participation in a computer LAN-based interactive written "conversation" using ClassWriter software). It is the latter sort of writing—"writing to learn"—that captures what and how students are thinking, how their collaboration with others helped define a problem or led to a series of proposed solutions, and how they explored ideas on the way to producing a formal piece of writing. In other words this is the sort of writing that captures and displays (to the student, her collaborators, and the instructors) the rough and tumble process of scientific inquiry, i.e., science-in-the-making.

ASC 299: Integrated Science Concepts (ISC) courses are multidisciplinary within the natural sciences, and focus on concepts which serve to organize and unify sciences—and student learning. Addressing higher order concepts helps students approach and understand problems or issues that connect different realms of scientific activity. In fact, the thematic concepts serve as teaching tools—practical, problem-oriented frameworks for the development of scientific content. Among the core concepts that might appear in the ISC courses being developed are systematicity, hierarchical levels of organization, causality and consequence, dynamic equilibrium, cycles, patterned change (e.g. development), and evolution, as well as the notions of scale, energy flow, diversity within unity, feedback, and disorder/order relations.

Climatic cycles

The purpose of this course is to explore the concept of cyclic events by investigating the nature and causes of hydrologic and energy cycles, and to develop a theory of climate and climate variability based on this knowledge. Students will explore what is known of the interaction of such cycles, learning of cycles that range from the diurnal, to seasonal and annual, to longer term cycles based on variations in solar output and receipt at the earth's surface. Laboratory activities will consist of both the analysis of climatic data and the diurnal field measurement of energy and moisture fluxes.

Levels of analysis

This course would involve an anthropologist, a physical scientist, and a life scientist and would look at how issues derived from level of analysis are similar in physical, life, and social and behavioral sciences. The course would begin with a basic discussion of the concept of scale, establishing definitions of relevant social, natural, and behavioral science terms. The course would include discussion of how scientists in different disciplines approach the issue of levels differently, partly because of differences in the nature of the objects being studied. For instance, one would contrast the physicist's easy acceptance of the limits of laws developed for particular levels of analysis to the tendency of social and behavioral scientists to debate such limits. The biologist would begin with a basic discussion of central issues regarding scale in the biological sciences, and move on to a discussion of an appropriate major issue in life science that involves seeing different realities at different levels of analysis (for example, macro and micro lines of investigation of certain aspects of animal behavior, ecosystems, or embryological development). With respect to the social sciences, the course would be organized around the analysis of data sets including both computer-stored quantitative and qualitative data

Junior Level

Context of Science in Society courses reflect the most diverse topics and are appropriate for all students, including science majors. The courses address the promises and limitations of the scientific enterprise in the framework of "real world" social, economic, political, historical, and ethical issues. In this manner the courses provide a link between laboratory science and society.

Biopolitics and the New Genetics

This course is designed to explore a limited but complex set of questions, introducing both the technoscientific foundations and the human value implications of a number of reproductive and genetic technologies and areas of inquiry made possible by the rapid growth in our developmental knowledge of the mammalian embryo/fetus and in molecular genetic knowledge of the human genome: *in vitro* fertilization, pre-embryo experimentation and genetic analysis, third-party donors of gametes, pre-embryos, or gestational capacity, adult genetic diagnosis, and germline gene therapy, for example. These interventions produce thorny ethical and sociopolitical issues such as the meaning of "responsible reproduction" (ethical and legal norms which might make one feel morally obligated to undergo genetic screening, genetic repair, or forego reproduction); redefinition of genetic normality; reevaluation of arguments concerning the moral status of the prenatal human as it becomes the subject of scientific investigation, therapeutic intervention, effects of drugs and alcohol, or the source of tissues for transplantation; and disagreement concerning the appropriate role of governmental intervention in reproductive decisions.

Ethical Responsibility in Research

The course's aim is to explore what it means to define and maintain the integrity of science, what it means for the contemporary institution of science as well as for individual scientists to be ethical and to attend to questions of social, political, and moral value in what they do. In addition to addressing the importance of maintaining honesty, properly allocating credit in collaborative research, and sustaining open communication of research results, the course will ask the more difficult and controversial questions as to whether and how scientists are to deal with the social, political, and moral consequences of their research. A number of questions will be key to collaborative inquiry. Are there ethical questions raised by the dramatically increasing levels of corporate support of research (in the domain of biotechnology, for example)? Should scientists profit from the work they have done? Does the setting of research agendas by private corporations entail ethical questions of a public nature? Should social and ethical concerns affect research agendas and, if so, how are those concerns to be addressed? Should the public play a role in agenda-setting? What ethical concerns are raised by military research and development? What sorts of ethical questions attend the use of animals for laboratory studies? Are some research activities (e.g., research using human preembryos or fetuses) simply inappropriate, or—in the case of something like gene transfer—are they perched at the top of moral "slippery slopes" that lead toward questionable outcomes (the intentional alteration of the human genome)? And thus ought

there be limits to scientific inquiry and, if so, how are such limits to be set in morally pluralistic world?

Science: Power-Knowledge

This course examines modern science as a practical activity. It views the "doing" of scientific research—what has been called "science-in-the-making." Its look at science features traditional as well as unorthodox analyses of the forces operating within and emanating from the sciences. From the latter perspective science is seen as dependent on—and constitutive of—features of a complex political, economic, social, and moral terrain. In an effort to understand this terrain, the course will pose questions that are epistemological ("How do we *know* using the methods of science?"), social and historical ("What are the *origins* of our scientific knowledge?"), and political and ethical ("Why do we know *this* about the world and not *that*? Why are our interests *here* and not *there*? Who gains from knowledge of *this* and not *that*? How might we know *differently*? What is to be *done*—and *undone*?"). Most importantly, the course will ask whether it is possible—by reformulating the concepts known as "science," "society," "power," and "knowledge"—to see science as always political and constitutive of society, rather than as a straightforwardly objective activity which is only occasionally distorted by outside social interests and political forces whose effects we can detect and remove, thereby producing a "clean" account of the workings of the world. If science is seen in this new way what are the consequences for scientific research, science policy, and science education as well as for our political, social, and moral engagement and responsibility in the face of modern science?

APPENDIX C

CAM

CERTIFICATE OF ADVANCED MASTERY
Advanced Application Outcomes

APPLY INFORMATION, RESOURCES, AND TECHNOLOGY
Access, evaluate, and apply information, resources, and technology common to the selected endorsement area(s).
- Acquire and evaluate, organize and maintain, and analyze and translate information and data.
- Locate, select, manage, and allocate resources.
- Use appropriate concepts, principles, theories, research and terminology.
- Select, apply to specific tasks, and maintain the tools and technology.
- Apply math and science concepts and processes.

UNDERSTAND SYSTEMS AND STRUCTURES
Analyze and deliberate on the systems and structures common to the selected endorsement area(s).
- Describe the system and its culture in present and historical terms.
- Apply long term and short term organizational & business planning.
- Deliberate on the issues, problems and information.
- Assess the internal and external forces on the system.
- Describe quality and appropriate improvement models.
- Describe the local, state, federal laws, regulations and processes.
- Recognize workplace health and safety environments and situations and propose methods of risk management and solutions to reduce hazards.

CONTRIBUTE AS A CITIZEN
Examine diverse positions and contribute activities that support social, political, economic, and environmental systems.
- Describe and deliberate on the current and historical systems that define American society and culture.
- Apply global, national & local system concepts and principles.
- Interpret the relationships and implications of people, society, environment, government agencies, cultural diversity and community groups.
- Evaluate and interpret human experience as expressed historically and currently in literature, the arts and/or the performing arts.
- Demonstrate active volunteerism and citizenship behaviors.

APPLY PERSONAL DEVELOPMENT STRATEGIES
Construct and initiate a personal development plan for balancing personal, family, and workplace roles.
- Assess, plan, and implement a comprehensive life-long personal wellness program.
- Analyze the influences which affect family interactions and develop potential solutions to a variety of concerns.
- Demonstrate respectful interaction skills with others from diverse cultures and backgrounds in the workplace, and in personal and family life.
- Demonstrate behaviors in self-management, employability, responsibility, and life long learning.

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Certificate of Advanced Mastery Outcomes

To attain the Certificate of Advanced Mastery, a student will demonstrate the ability to:

Advanced Applications

Apply Information, Resources, and Technology	Access, evaluate, and apply information, resources, and technology common to the selected endorsement area(s).
Understand Systems and Structures	Analyze and deliberate on the systems and structures common to the selected endorsement area(s).
Contribute as a Citizen	Examine diverse positions and contribute activities that support social, political, economic, and environmental systems.
velopment	
Apply Personal Strategies Z	Construct and initiate a personal development plan for balancing personal, family, and workplace roles.

Advanced Foundations

Think	Think critically, creatively and reflectively in making decisions and solving problems.
Self Direct Learning	Direct his or her own learning, including planning and carrying out complex projects.
Communicate	Communicate through reading, writing, speaking, and listening, and through an integrated use of visual forms such as symbols and graphic images.
Use Technology	Use current technology, including computers, to process information and produce high quality products.
Quantify	Recognize, process, and communicate quantitative relationships.
Collaborate	Participate as a member of a team, including providing leadership for achieving goals and working well with others from diverse backgrounds.

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DRAFT EXTENDED DEFINITIONS FOR THE CERTIFICATE OF INITIAL MASTERY OUTCOMES

Introduction

The Certificate of Initial Mastery (CIM) outcomes have been adopted by the State Board of Education (See page 2). They emphasize useful knowledge and complex performances, matched to real-world demands. The outcomes are relatively few in number and provide a focused, uncluttered set of targets for learning.

The EXTENDED OUTCOME DEFINITIONS presented on the following pages describe in more detail the processes students will need to apply in order to demonstrate their learning. The extended outcome definitions are not intended to identify curriculum goals. However, because the extended definitions do illustrate mental pictures of student performances, they should prove useful to those who develop assessment tasks and curriculum frameworks.

In order to measure student progress relative to the CIM outcomes, additional components of the CIM assessment system still need to be developed. These components include scoring scales (rubrics), model assessment tasks and expected performance levels (criteria). Once all the components of the CIM assessment system are developed and can be understood in relation to each other, the CIM standards for student performance will be defined.

Certificate of Initial Mastery Outcomes

To attain the Certificate of Initial Mastery, a student will demonstrate the ability to:

Foundation Skills

Think	think critically, creatively and reflectively in making decisions and solving problems.
Self-Direct Learning	direct his or her own learning, including planning and carrying out complex projects.
Communicate	communicate through reading, writing, speaking, and listening, and through an integrated use of visual forms such as symbols and graphic images.
Use Technology	use current technology, including computers, to process information and produce high quality products.
Quantify	recognize, process, and communicate quantitative relationships.
Collaborate	participate as a member of a team, including providing leadership for achieving goals and working well with others from diverse backgrounds.

Core Applications for Living

Deliberate on Public Issues	deliberate on public issues which arise in our representative democracy and in the world by applying perspectives from the social sciences.
Understand Diversity	understand human diversity and communicate in a second language, applying appropriate cultural norms.
Interpret Human Experience	interpret human experience through literature and the fine and performing arts.
Apply Science and Math	apply science and math concepts and processes, showing an understanding of how they affect our world.
Understand Positive Health Habits	understand positive health habits and behaviors that establish and maintain healthy interpersonal relationships

EXTENDED OUTCOME DEFINITIONS

CORE APPLICATIONS FOR LIVING

The Core Applications For Living provide the context for identifying the knowledge and skills students will need to be successful in the future. A successful person must not only have a broad base of knowledge and skills, but must also be able to apply these flexibly, doing so in ways that transcend subject matter boundaries. Problems and tasks that students will face will be complex and multi-faceted. Finding solutions and strategies that work will require an ability to draw on and integrate information and processes from many disciplines. Acquisition of this ability is one of the central purposes of the CIM.

CIM OUTCOME: **Deliberate on public issues which arise in our representative democracy and in the world by applying perspectives from the social sciences.**

Students will propose relevant actions for local, state, national and international public issues. A student who effectively deliberates on public issues is able to:

- identify and clarify relevant issues
- analyze issues systematically (e.g., identify resources, analyze diverse perspectives, make predictions and form conclusions)
- apply democratic principles such as fairness and justice in formulating options and actions
- apply information, concepts and perspectives from history, the social sciences and other relevant disciplines

CIM ●UTC●ME: **Understand diversity and communicate in a second language, applying appropriate cultural norms.**

(1) understand diversity

Students will respond to diversity in a way that recognizes the dignity and rights of all people. A student who understands diversity is able to:

- analyze his or her own culture, recognizing the influences that have shaped thinking and behavior
- explain how our perceptions of differences among people (e.g., cultural, racial, ability level, gender) may enrich our lives or may lead to stereotyping, miscommunication, discrimination and the denial of human rights
- analyze systematically the interaction between cultural populations, in order to gain awareness and sensitivity to both human diversity and cultural identity
- recommend strategies to reduce tensions, resolve misperceptions and conflicts relating to human diversity

(2) communicate in a second language*

Students will be able to communicate with a person from another culture in that person's language and show a sensitivity to the norms of behavior that apply. A student who can communicate in a second language is able to:

- comprehend and respond to spoken messages and commands
- maintain simple conversation that shares information
- recognize and show sensitivity to body language, gestures and appropriate levels of formality and other aspects of the culture which affect communication
- read and comprehend basic material encountered in everyday life
- write to meet practical needs

*In instructing students, emphasis will be given to oral communication. If the student's native language is other than English, the student may be tested for proficiency in this outcome in that language.

CIM OUTCOME: **Interpret human experience through literature and the visual and performing arts.**

Students will relate literature and the arts to their own lives and to broader human concerns, issues and possibilities. A student who derives meaning and value from literature and the arts is able to:

- make informed interpretations of the purpose and meaning of literary and artistic works
- convey interpretations of personal experience in expressive forms (e.g. visual, written, oral, musical or dramatic)
- explain how literature and the arts from various cultural/ethnic groups express distinctive as well as common values, experiences, struggles and contributions
- evaluate how the form and content of a literary or artistic work contribute to its message and impact

CIM OUTCOME: **Apply science and math concepts and processes, showing an understanding of how they affect the world.**

Students will apply mathematics and science to varying real world situations. A student who is proficient in these applications is able to:

- analyze real world phenomena using scientific concepts (e.g., cause and effect, energy, systems)
- apply mathematics, scientific laws and processes, and technological systems to real-world problems
- construct mathematical and physical models of real-world situations
- analyze the impact of technology on economic, social, political and environmental systems

CIM OUTCOME: **Understand positive health habits and behaviors that establish and maintain personal wellness and healthy interpersonal relationships.**

Students will assess and monitor in their own lives the factors that relate to positive mental, physical and social health. A student who understands the factors which contribute to the development of a healthy individual is able to:

- analyze the relationships among health factors, disease prevention and health promotion
- assess personal health risks and apply this assessment to develop methods to reduce the risks
- predict own future health status based on current health habits and knowledge of the life cycle

  recognize conditions, actions and personal qualities which affect interpersonal relationships in the specific life roles of citizen, family member and worker

FOUNDATION SKILLS

The Foundation Skills are fundamental to being able to demonstrate integrated, complex performances. They underlie the ability to use concepts and skills from the disciplines effectively. They interact with each other and with the Core Applications for Living in many ways. Consequently, none of the Foundation Skills should be viewed as discrete or totally independent of the other CIM outcomes.

CIM OUTCOME **Think critically, creatively, and reflectively in making decisions and solving problems.**

(1) think critically

Students will identify and evaluate reasons, assumptions and evidence that support theirs or others' positions or practices. A student who thinks critically is able to:

- define and clarify problems
- determine accuracy and relevancy of information
- examine situations/problems from multiple perspectives
- develop and communicate complete and consistent arguments

(2) think creatively

Students will think flexibly and imaginatively when framing problems and seeking solutions, developing plans and designing products and performances, and engaging in other complex tasks. A student who thinks creatively is able to:

- create meaningful patterns from unstructured experience and information
- generate new ideas to produce better alternatives and solutions
- combine different ideas and viewpoints to form a more inclusive and effective whole

(3) think reflectively

Students will consciously monitor, assess and improve their own thinking. A student who thinks reflectively is able to:

- develop strategies for achieving a goal
- anticipate potential problems
- analyze and modify strategies to increase the chances of success
- assess the process used to achieve a goal and evaluate the results

CIM OUTCOME

Direct his or her own learning, including planning and carrying out complex projects.

Students will recognize and demonstrate their own power and capability to learn and solve problems. They will demonstrate that capability through the establishment of courses of action (including the planning and carrying out of complex projects) which have multiple steps, are open-ended, are challenging in scope and sophistication, involve research and the use of outside resources, and involve communication with other people.

(1) direct his or her own learning

A student who recognizes and demonstrates capability to learn and solve problems will be able to:

- understand oneself as a learner, including one's interests, aptitudes, abilities, and educational and career aspirations
- identify and access the resources necessary to obtain needed skills or knowledge
- establish clear goals and high standards for personal performance and hold oneself accountable to these standards and persevere when faced with difficult situations
- analyze different learning environments and adapt own strategies to improve learning

(2) carry out complex projects

A student who carries out complex projects is able to:

- set appropriate project goals and develop a well-reasoned plan for attaining the goals
- implement the plan, checking and adjusting activities to keep the project on track and persisting in the face of difficulties
- evaluate the final product(s) and reflect on the project as a whole, including what he/she has learned from it

CIM OUTCOME

Communicate through reading, writing, speaking and listening and through an integrated use of visual forms such a s symbols and graphic images.

(1) read

Students will obtain meaning from a variety of complex texts (e.g., essays. novels. stories, poems, technical documents) and identify the writer's purpose.
An effective reader is able to:

- make connections within texts and among texts and with personal experience
- choose reading strategies most appropriate to a given reading situation
- evaluate and monitor one's own comprehension, using a variety of strategies to self-correct

(2) write

Students will use writing as a tool for learning and self-reflection and to convey meaning through a variety of written forms (e.g., stories, essays, journals, technical reports). An effective writer is able to:

- demonstrate control of ideas and content, organization, voice, word choice, sentence fluency and conventions
- evaluate and monitor one's own writing, using a variety of strategies to produce coherent and mechanically correct final products

(3) speak

Students will engage critically and constructively in oral exchanges of information, including making formal presentations, giving spoken instructions, asking and answering questions, and using language to achieve effective group communication. An effective speaker is able to:

- deliver presentations, demonstrating effective skills relevant to the audience (e.g., vocal expression and non-verbal signals, development of ideas, organization, and level of language)
- communicate ideas effectively in group situations

(4) listen

Students will obtain meaning through oral messages, including information presented through a variety of media. Effective listeners is able to:

- identify the purpose of an oral message
- analyze and evaluate verbal and non-verbal messages and how they are delivered
- engage in verbal and non-verbal interaction with a speaker to ensure effective communication

(5) integrate use of visual forms

Students at the CIM level will select and develop visual forms to integrate with other forms of communication to enhance the impact of a product or presentation. Students who can integrate the use of visual forms is able to:

- integrate visual forms that achieve their purpose and are appropriate to the intended audience
- select and develop visual forms that meet the criteria for effective design (e.g., clarity, coherence, accuracy, precision)
- use visual forms that reflect efficient or creative use of available materials and technology

CIM OUTCOME

Use current technology, including computers, to process information and produce high quality products.

Students will use, develop and evaluate technology to gather, understand and manipulate materials, processes, and information to solve problems. A technologically competent student is able to:

- apply diverse technologies to store, access, process, create and communicate information needed to solve problems, satisfy personal needs, and extend human capabilities
- set up and maintain tools and equipment to produce high quality products
- use a variety of tools, materials and equipment safely

CIM OUTCOME:

Recognize, process and communicate quantitative relationships.

Students will solve a variety of challenging everyday problems that require quantitative solutions (e.g., practical problems requiring the application of measurement, statistics and probability, geometry and algebra). A student who uses quantitative skills effectively is able to:

- interpret a problem situation, including selecting information to solve the problem
- develop and apply a problem solving strategy
- solve the problem and verify the solution
- communicate the results in an easily understood manner

CIM OUTCOME:

Participate as a member of a team, including providing leadership for achieving goals and working well with others from diverse backgrounds.

Students will organize and actively engage in work groups aimed at achieving specific goals. An effective team member is able to:

- define problems, issues, strategies and tasks within the group
- perform the functions of various roles within the group
- establish and participate in open and clear communication
- engage all team members in efforts to achieve team goals
- work toward consensus while respecting divergent points of view